Vol. XVII. SEPTEMBER 20th, 1906. No. 12.

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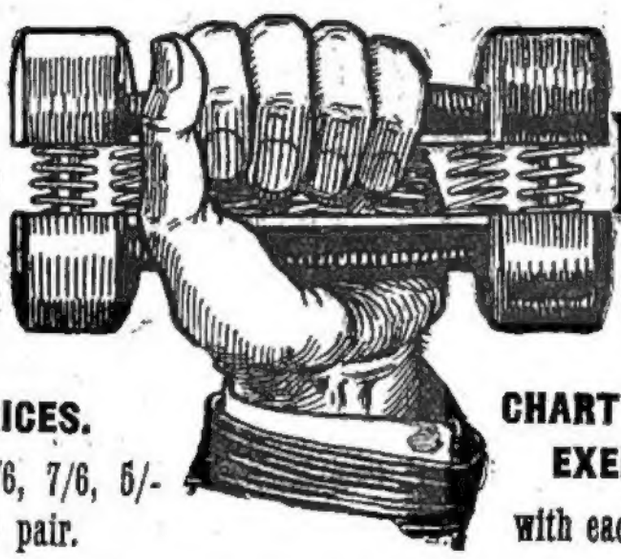

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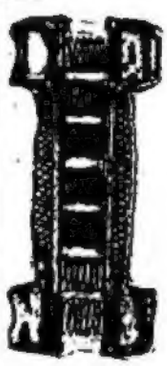

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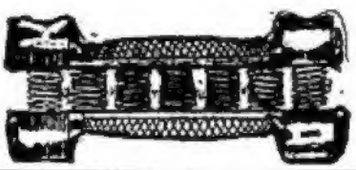

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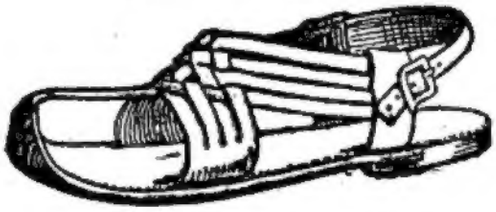

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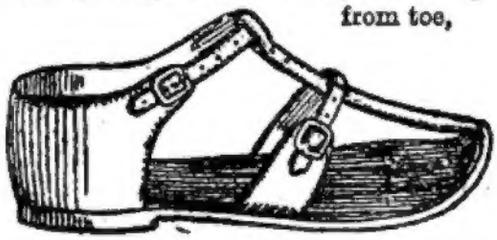

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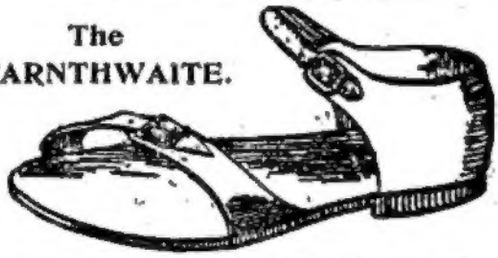

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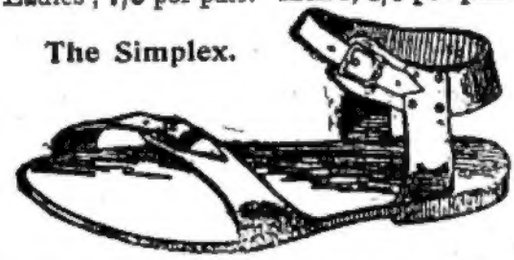

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(Est. 1898). VOL. XVII. No. 12. SEPTEMBER 20, 1906.

SANDOW'S MAGAZINE

... OF ...

PHYSICAL CULTURE.

EDITOR: EUGEN SANDOW.
Assistant Editor: FRANK PINK.

MOTTO:—*Mens Sana in Corpore Sano*—A SOUND MIND IN A SOUND BODY.

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NOTICE TO CONTRIBUTORS.—The Editor will at all times be glad to consider Articles, Stories, and Sketches, but in order to avoid waste of time, contributors would do well to submit suggestions for his approval before sending in their work. In no case can the Editor be responsible for the safety of unsolicited sketches and literary matter, but where stamps are enclosed he will do his best to secure their return if unsuitable.

NOTES FROM MY NOTE-BOOK.

BY THE EDITOR.

I HAVE received a long and interesting letter from an old reader on the very vexed question of professionalism in sport. His letter is a trenchant diatribe against "footballers at tuppence a kick, and cricketers at a shilling a run." He goes over all the ancient and venerable arguments against which he sneers at as the "commercialising of sport," and cannot find one single tiny shred of reason in favour of professionalism. ———

NOW this is a subject on which, I am afraid, too many people hold similar opinions. I admit—none more readily—that to indulge in any game, exercise or sport, purely and solely for the love of the thing is a wholly admirable and commendable spirit, but I still contend in all justice to the much maligned professional that he is entitled to some rewards as well as the many buffets to which he has grown painfully accustomed. A mercenary spirit is nowhere more than in sport to be contemned. It leads to all kinds of unpleasantness, to innumerable suspicions, and often to unfair and unsportsmanlike methods. But I, from a wide experience, contend that the average professional athlete is not mercenary, he simply cannot afford to play for the fun of the thing, and that is his misfortune rather than his fault. Indeed I have known many a full-hearted player of football and other games, compelled either to become a professional or give up the favourite game, choose the former with a shudder.

———

AND, on the whole, professionalism is a very good thing for any sport or pastime, provided it is controlled by a body of honest, strong-minded, and clear-headed men. Football, for instance, would never have attained its present enormous popularity had it not been for professionalism. The difference between a game of Association football as played between an amateur and a pro-

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fessional team, is as great as the difference between travelling in a Pullman car and in the third class compartment of a French railway. In saying this I exclude, of course, those two remarkable organisations, the Queen's Park and the Corinthians, where circumstances enable the members to retain their amateurism, and at the same time devote as much time almost as a professional team to training.

———

THE clumsy efforts of the average amateur football organisation are not likely to arouse much enthusiasm in the minds of the youthful onlooker, but the skill, the precision, the speed and stamina, the *finesse*, displayed by a crack First League eleven cannot fail to impress and enthuse the least athletic of youths. It is the same in every field of sport. The thoroughly trained, highly developed professional is an athletic missionary, winning physical instead of spiritual converts. And we as a nation who love manly sports and exercises must acknowledge our debt of obligation to the professional for this alone. How many young men to-day received their first stimulus towards some healthy, manly sport from watching the skilled and trained efforts of the abused professional.

———

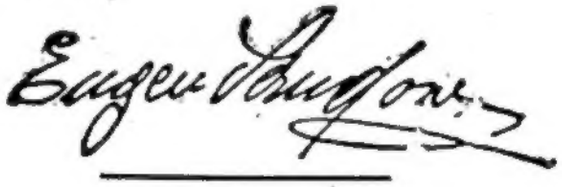
HOW often have I in these columns, decried the unhygienic conditions of the poorer working classes of this country! Why will not all employers see that it is to their own interests as well as that of their employees that the latter be provided with the conditions necessary to keep up physical efficiency? I am glad to see that my remarks have been taken to heart by the editors of many more influential organs than this, who are endeavouring to instil a wiser view into the minds of employers. If employers themselves will not act, then it is the duty of the State to see that its citizens are protected. One of the advantages of general military training would be that the Government would then be compelled to see that those responsible for its defence, at a moment of crisis, should under every circumstance be kept in a state of physical efficiency, and not sacrificed to the rapacity of avaricious employers and soulless dividend hunters.

———

THE editor of *Engineering* in a recent issue declares that "the nygienic condition of the poorer working classes all through the country is bad." It is, indeed, insanitary workshops, overcrowded dwellings, unnourishing food, that are causing the British workman to flag in the fierce race for commercial supremacy. The unskilled labourers *Engineering* compares to horses fed on grass. Such horses may live and look well enough, but they are unable to work. And the lethargy of the unskilled British workman is largely the result of being chronically underfed. Yet good nourishing food is not expensive, indeed, is less expensive than that on which he at present spends his money. A series of lectures on food values would reduce the strain on many a poor working man's purse.

———

THE pity of it is that the average workman will not take the trouble to save himself. Instead of spending his pence on sane and sensible publications that would assist him in this and other directions, he throws his money away on football finals, racing specials, and other demoralising and ruinous literature. Beer, 'baccy and betting are too often the only gods he worships, and exacting idols they are. Not only his money, but his mind, his body, even his soul are theirs. A little more seriousness—even a partial return to Puritanism— would do John Bull a world of good to-day.



HOLIDAY DISCOMFORTS.

THE generality of people in this country are never so happy as when they are thoroughly uncomfortable. Look at the hideous discomfort in which the greater part of the nation is positively revelling at this time of year. Whether they are "roughing it" in a Highland shooting box, "pigging it" in seaside lodgings, or "making the best of it" in a foreign hotel, are not their holidays to the majority of people the most enjoyable time of the year, and also the most uncomfortable?—*Ladies' Field.*

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HARDENING THE BODY.

How to Resist the Coldest Weather.

BY "hardening" the constitution we mean making it capable of resistance, especially to cold, and of remaining unaffected by unfavorable weather.

In commencing a hardening treatment, however, the patient's age, sex, habits of life, and, above all, the condition of his nervous system must be taken into consideration.

TREATMENT.

The desired degree of hardening will be attained by daily cool or lukewarm ablutions and rubbing of the whole body if persevered in for some length of time, or by baths, together with the use of a moderate amount of clothing and bed covering, having regard constantly to the constitution and nervous system of the patient. (The best means of hardening the system are, however, says the *Naturopath*, short, cold, ablutions and baths of no longer than a minute's duration.)

1.—Commence with lukewarm ablutions, gradually reducing the temperature till the water is cool. In the case of individuals not suffering from weak nerves the whole body may be rubbed with water of the same temperature.

2.—Baths (91°) at the beginning, with cool affusions to be taken two or three times a week.

3.—Swimming baths of at least 71° may be recommended, also river baths of same temperature in summer, duration two to four minutes. The bather should move vigorously all the time he is in the water.

It is not necessary to rub one's self dry after these baths. Exercise should be taken in the sunshine or in warm air till all moisture has evaporated from the body.

HACKENSCHMIDT IN ACTION.
Kindly lent by The Spalding Athletic Library, and taken from "How to Wrestle," price 7d., post free.

4.—Walking barefoot is a simple and natural means of hardening the system.

Children should always walk barefoot.

Anxious parents who are afraid to follow this advice should, at any rate, see that their children wear boots and shoes which admit of the fresh air coming in contact with the skin.

Children who can already stand and walk know how to help themselves; they throw away the troublesome and uncom-

fortable shoes and stockings without the slightest compunction and are quite happy immediately, especially in spring, when they are allowed to romp about as they please. Poor children are rarely interfered with in this pleasure. Less fortunate are the children of the rich. Prudent parents residing in towns and not possessing gardens, should allow their children to walk barefoot at certain times and in certain rooms or passages, so that their feet may at times be quite free from covering and exhale properly; may absorb fresh air and move about in it like the face and hands.

Grown up people of the poorer classes often walk about in the country barefoot, and do not grudge the richest dweller in the towns the instruments of torture which he calls his boots, however elegantly the latter may be fashioned and polished.

Grown up dwellers in towns should walk up and down in their rooms from ten minutes to half an hour at a time immediately before retiring to rest or after rising in the morning, and in order that no discomfort may be experienced from commencing this practice too suddenly, at first in stockings, afterwards with bare feet. Before taking these walks the feet should be dipped for a few minutes in cold water up to the ankles.

Also before walking in water or on grass, care must be taken that the feet are thoroughly warm. If they are cold, they must first be warmed by rubbing or by a short warm foot bath. During the cold season these applications should be continued only for a short time, two minutes at the commencement.

A specially beneficial kind of barefoot walking is walking in wet grass. The wetter the grass, the longer and more often repeated the exercise, the greater will be the benefit derived from it. As a rule, the duration of one of these walks should be about a quarter of an hour.

After the walk, any sand, grass or dirt should be at once removed or washed from the feet, and dry shoes and stockings put on while the feet are still wet. Then a walk should be taken, starting off at a rapid pace, which may be gradually reduced. The duration of this walk will depend on the rapidity with which the feet get dry and warm, and should not exceed a quarter of an hour.

5.—Walking on wet stones has an effect somewhat similar to that of walking in wet grasss. A larger or smaller piece of stone paving will be found somewhere or other about every house. One can run rapidly backward and forward in a long passage; on a small piece of paving, one can tread the stones as the vintner treads the grapes or the baker's apprentice treads the dough in many places. The essential thing is that the stones should be wet and that one should not stand still on them, but walk or run with tolerable rapidity. A jug or watering can can be used and a fair amount of water employed in making as broad and long a water path as space may allow, and the water spread by the feet.

When used for curative purposes the duration of these applications should not exceed three to fifteen minutes.

As a rule, from three to five minutes will be sufficient. Patients suffering from cold feet, throat troubles, catarrhs, tendency of blood to the head with consequent headache, should take these "wet stone walks" frequently.

6.—A still more powerful effect will be obtained by walking in fresh snow for half a minute.

7.—Walking in water. It may appear a simple matter to walk in water reaching to the calves; that is, nevertheless, an excellent means of hardening the body. The patient may commence with moving about in a large bath with water enough to cover the ankles. The action is more powerful if the bath be filled with water reaching to the calves, and still more so when the water comes up to the knees. In the case of feeble patients it is best to commence with lukewarm water, and gradually reduce the temperature till the water is quite cold.

8.—For hardening the extremities (arms and legs) the following process is recommended by Kneipp: The patient should stand in cold water reaching up to or over the knees, not longer than a minute. After putting on his shoes, he must next bare his arms to the shoulders and hold them for a minute in cold water. If possible, both these processes should be performed at the same time, which pre-

sents no difficulty if the bath be long enough. A convenient plan is to stand with the feet in a vessel on the ground, while the bared hands and arms are put in a wooden tub resting on a chair. A necessary condition of this application is that the body should be warm.

9.—The knee affusions, as well as other "Kneipp" affusions, are well adapted for hardening.

10.—On going out of a warm room into the cold air in raw or cold weather it is a good thing to drink cold water, in order to strengthen the respiratory organs, and to make them capable of resisting the effects of cold air. Many colds may be avoided in this way, both with children and adults. Breathing should be performed through the nose.

11.—Vigorous exercise, such as gymnastics, swimming, etc., are conducive to the hardening and strengthening of the body.

Infants and small children may be strengthened by pouring a jug of water over them on the conclusion of their daily bath, the water from the jug being a few degrees colder than that used in the bath (96° to 91°). This, however, must not be done till a fortnight after birth, and the temperature must be somewhat higher at first, and gradually reduced. Dr. Baumgarten, of Worishofen, advises that children, after the first week of their life, should be dipped for a moment in water of 82° to 73° after each bath.

Hardening the body must be regarded as one of the most important aids to health and strength, and a sovereign means for rendering it capable of resistance to injurious influences. In former times much less was heard of the necessity for hardening the constitution. The reason of this was not merely that little attention was paid in those times to national health and public hygiene, and that little interest was taken in these matters, but that the necessity for drawing attention to the importance of hardening did not exist to the same extent, as the conditions of life in those days were naturally adapted to "harden" people. It will be enough to remind our readers of the method of travelling in the days before the invention of railway trains and steamers. How many men and women, and even children, were employed more or less regularly as messengers, and got the opportunity of hardening themselves by travelling along almost impassable roads, in every kind of weather, and often for hours without a halting place! Not only villagers, but dwellers in towns, were accustomed to long journeys on foot, with only a moderate amount of clothing, and freely exposed to air, sunshine and rain.

It can be readily understood that labourers whose duties compelled them to walk long distances, and all pedestrians must have had abundant opportunity to harden themselves under such conditions! At a time when workshops were never heated, when there were no double windows, when servants and many others slept in icy cold attics, and when warming pans were used only by elderly people, opportunities for hardening were not lacking. In those times, moreover, the housework, even in families of good position, was much harder than now, so that servants were compelled to get hardened. In those days the popular recipe for the prevention and cure of anæmia and weakness in young girls was plenty of bodily work at home, and the universal medicine was plenty of open air exercise in all weathers, without any anxiety about catching cold.

WALKING OVER YOUR GRAVE.

EVERYBODY knows that queer little nervous shiver that comes upon one now and then without apparent cause. It is generally jokingly put down as "some one walking over my grave." Physiologists have come to the conclusion that it is the effect of electricity. We are told that "this great power is constantly being generated everywhere, and when the positive and negative parts of the power meet they produce a shock in any living thing. There is a good deal of electricity in the air, and when the human body is made a meeting point, the sensation is liable to be felt about the region of the spine. Some people are liable to shocks now and then in special parts of their systems, in the ankle, for instance, or, very commonly, around the base of the brain. There is nothing to harm in this, but it shows a rather highly strung organisation. These shocks, which give other people the idea that the subject of them is feeling cold, occur as much in hot weather as at other times. If they occur very frequently the subject becomes more than usually liable to them, and needs a change to brace up his or her frame."

THE MAN OF THE FUTURE.

By G. Elliott Flint.

[*How often do we hear the bogey cry that the man of the future will be all brains and no body! In this article, Professor Flint completely shatters this delusion, and shows that the coming man* MUST *be strong in body before he can be strong in brain.*—ED.]

IN an extremely remote past, when man was hardly conscious of time, he lived like an animal, working hard physically, but thinking and reasoning little. The result was that he developed corporally much faster than he developed cerebrally. As time went on, however, he learned to use his brain more, and this led to using his hands less. Corporal and cerebral development then advanced nearly together. At present man not only uses but exerts his brain so constantly, and he has in consequence so greatly developed it, that now the upper classes of the civilised nations need employ their muscles hardly at all. It is true that the common people that constitute the great working class, still labour with their hands; yet constantly improved machinery steadily tends to lessen their work also. Not that this is an evil to them as yet, for there is no question that they now labour too hard and too long. It is my present intention to warn chiefly the cultivated classes that are too apt to do no physical work whatever. There will come a time, probably, when no one will be obliged to do hard manual labour. When that time comes humanity will, as I believe, be neither so happy nor so healthy as it thinks it will be; indeed, I very much doubt whether it will be so blessed as it is at present.

It is certain that our cerebral development is now far outstripping our corporal development, and that the danger of this one-sided progress is not half adequately recognised. Future man, we are told, will be great of brain and insignificant of body. There could be no such type, for too much is the size of the brain dependent on the strength of the body. Progressive cerebral evolution with progressive corporal retrogression would eventuate in such great physical feebleness that both the body and brain would die. Moreover, before this occurred, power of propagation would be lost where the brain too much exceeded the body in strength; and this would be a further check on an overbrained race.

Underfeeding and too little exercise in childhood and adolescence impoverishes the brain as well as the body. Witness the stupidity of stunted peoples. And this is what we should expect. Rich pure blood, the result of an abundance of food and exercise, favours the growth of all organs. But if the body as a whole be not properly exercised, because of an exclusive use of the brain, the blood will not be rich and pure; whence the brain will have poor material with which to augment its structure, and will suffer accordingly. On the other hand, body exercise, stimulating as it does the appetite and strengthening the digestive organs, insures the brain having the best and richest matter for its nutrition.

Though it is true that there are brainy men that have puny bodies, and that some muscular men possess puny brains, yet these exceptional cases do not invalidate the truth of the principle that has been expressed. The overbrained man that starves his body to feed his head may become so weak as to die prematurely. The overmuscled man that starves his head to feed his body may become hopelessly imbecile. For, be it remembered that however good the blood, it will not much nourish muscles or organs that are little used; for they, not requiring much nutriment, will not attract it.

Prof. Nicoforo, of the University of Brussels, has just concluded extensive researches into the causes of height. He found that an abundance of pure air and food favoured growth more than did all other causes. The poor, that are so often

ill-nourished, and the underfed French peasantry, are, as a rule, undersized. Furthermore, Prof. Nicoforo found that the size of the brain was proportional to the height of the man.

Now, if both corporal and cerebral growth depend so absolutely on the amount of air and food that we absorb, it follows that physical exercise, which enables us to appropriate the maximum quantity of these elements, must be a most powerful factor in developing brain as well as brawn—provided the brain also be exercised.

The bearing of the foregoing facts on the ultimate human type is most important. Those that continue to neglect their bodies that they may the more excessively develop their brains will, in the struggle for existence, at last be swept aside by those whose whole strength is better balanced.

Could the brain exist apart from the body, there would be excuse for neglecting the body. But not only is the brain's health absolutely dependent on the corporal part—it would be perfectly useless could not that part carry out its directions. Lastly, it is incredible that a weak human organism could endure amid the rigorous physical environment to which it is constantly subjected. Future man will, of necessity, be strong both in body and brain.

Food and Physique.

MANY matters of physiological and hygienic importance were discussed at this year's meeting of the British Association, among them the important question of diet.

Dr. Josiah Oldfield, of Harley Street, in a subsequent interview with a *Morning Advertiser* reporter, expressed his opinion on the controversy which has been raised on the discussion before the British Association on the subject of modern dietary. Most bottle-fed infants, he thinks, are given too much. "Boys and girls and growing youths do not eat too much. But when men are past forty they, as a rule, attain a better position in life, which gives them more time for meals, and which also renders the cost of food a matter of less importance, and so they begin to eat too much. The effect of eating too much at a time is that the stomach becomes distended. In youth this is not so important, because the elasticity of the muscles causes them readily to contract again; but when this goes on habitually then sooner or later there is a permanent distension, yielding flatulence, fermentation, and dyspepsia. To me, therefore, it is much less important for a man to have a big gorge once a month, and live very abstemiously the rest of the time than to overeat habitually; and I look upon habitual overeating as one of the first and most serious beginnings of human old age. Abstemiousness is a *sine quâ non* of healthy long life.

"Another important point is that people take their food too sloppy. Primitive man used his teeth; civilised man has his food very often partly premasticated and predigested. The result is that the gastric juice from the stomach is not absorbed; the eater does not feel satisfied, and he unconsciously overeats. The use of wrong food is thus a beginning of the vice of overeating. Food should be drier. It should not be soaked with liquid. Liquid should be consumed as such, and not mixed with food. In the matter of food I am all for the simple life. I am an advocate of less varied and less tempting menus. When a man has had as much of one dish as he wants Nature has told him he is satisfied. But when another dish of a different sort is placed before him he is tempted to try it, with the inevitable result that he overeats. The secret, therefore, of health and longevity is the simple life in eating.

"The stamina of the English race is, in my opinion, being slowly undermined by the increasing use of flesh foods. England is becoming the shambles of the world. From all parts of the world are dumped into her tens of thousands of carcases. The majority of these animals are unhealthy, and the use of unhealthy food is the most serious thing I know of for the future of the human race. I am no vegetarian, and I am not advocating vegetarianism. What I do advocate is the more frequent use of cereals and fruit as articles of food. It is the simplest thing in the world to detect disease in fruit and cereals, but with regard to animals it is a

recognised fact that the moment an animal shows any sign of disease it is fattened and sent to the market because the owner does not care to lose its value. The conditions of stall feeding where the object is to get the maximum of weight in the minimum of time renders it practically impossible to get animals with a sound, healthy constitution sent to the market

"The history of the human race shows that for stamina and endurance and a constitution which will cause rapid recovery from wounds and disease, the best diet is cereals, such as wheat, barley, and oats, and dried fruit, such as raisins, figs, dates, and currants. For my own part, I do not know any food more nutritious, more healthy, more easily to be got anywhere and by anybody, than wheat cakes and raisins. The records of the classics prove that gluttony and drunkenness nearly always went together, and gluttony was always associated with flesh eating, so that if the temperance world were only wise instead of fanatical they would advise people to give up the use of flesh rather than urge them to substitute it for beer.

"Against the occasional use of flesh I have nothing to say, except that personally I do not consider it a physiological food for the human race. I think that flesh-eating has done much to bring about those intestinal troubles peculiar to to-day, of which appendicitis is a typical and fashionable illustration. Fish—provided it is fresh—butter, eggs, and a limited amount of milk and honey are healthy variants of the cereal diet. Experimenters in dietetic reform often make the mistake of over-feeding themselves with starch and sugar yielding food to compensate as they think for the absence of butcher's meat. Oil is the natural substitute—the best olive oil, cocoanut-oil, and butter in the form of darlene. The fat of the unhealthy pig it would be wise to replace with the fats from vegetable sources, such as ghee and nut oil. For weak digestions nuts should be put through the nut mill or malted, and when so prepared form a most valuable food. A delightful sandwich can be made with a large date, the stone being taken out and the cavity filled with nut meal.

Are we too Strenuous?

Over Pressure more Dangerous than Under Pressure.

ONE of the most celebrated admirals of our day, a man whose name is in everybody's mouth almost synonymous with hardiness and valour, was once asked by a friend of mine how he attained his celebrity. "You must have worked uncommonly hard to accomplish all you have done at your time of life. How ever did you manage it, and what is the secret of your remarkable success?"

"Well, I'll tell you, me bhoy. It was just through being a thoroughly lazy man." And the gallant officer went on to state that, from his early years, he had taken uncommonly good care never to do more than he could help—that is to say, at ordinary seasons, and when there was no unusual pressure—whenever, in fact, nothing was to be gained by extraordinary exertion. He had always lain in bed till the last minute, and had taken every possible advantage of the hours of idleness, legitimate or otherwise, his profession had permitted.

A RESERVE OF ENERGY.

The result was that, whenever a spurt was really necessary or advantageous, this hero of modern days had all the requisite energy to meet it. Whereas his more industrious compeers had no reserve to draw upon; they were speedily exhausted. Thus he had no difficulty in outstripping them in the race for fame.

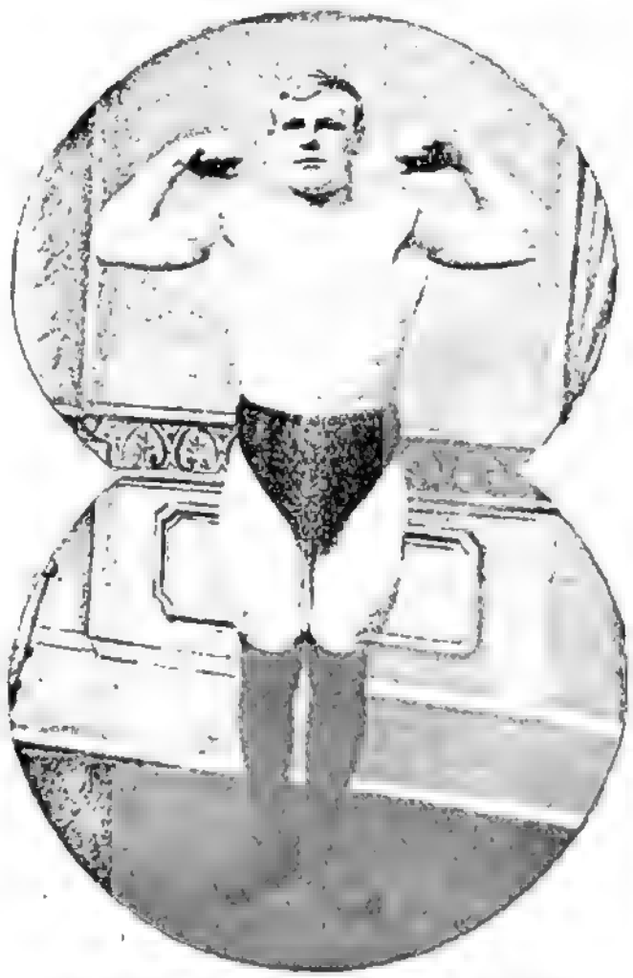
The advantages of that pregnant principle he illustrated by sundry anecdotes from a seemingly busy career teeming with important incidents, which at no very remote period loomed large in the public eye.

Thus in the Egyptian campaign he was ordered to march a body of troops across the desert in time to reinforce the main army, then awaiting the battle of Tel-el-Kebir. A week's journey was involved. Haste was imperative, as the rebels were in great force, and were certain to attack soon. A decisive engagement was expected, and a junction before this could occur was most urgent.

Well, Lord James —— (I must not give his surname) duly set out, and had a weary tramp with his men in the broiling

sun. At night the latter were hungry, thirsty, and tired; so he ordered a halt and encamped. Just as the tents had been put up a general officer in charge of another body of troops overtook them, and in language more emphatic than polite demanded our hero's reasons for the hazardous delay. "Don t you know that a battle is pending, and that every minute is precious? Haven't you been directed to hurry on your men with all possible speed? What the Valhalla do you mean by lounging about in this lazy fashion? You deserve to be cashiered. By gad, if I were the Chief, you should be this very moment, etc., etc."

The reply was: "Well, General So-and-So, my orders are to deliver my men in the best fighting condition possible at such a place, by such a day. Perhaps you will permit me to carry them out in the way I think best." That was sufficient to check the flow of vituperatory expostulation. So, after a few parting shots of flowery invective, the general rode on with his sweltering and exhausted troop.



A MAGNIFICENTLY PROPORTIONED YOUNG READER.

A second day passed, and a third. The two forces maintained their relative positions, and the general was ahead. But on the fourth Lord James —— and his band passed the others, now thoroughly worn out. On the fifth he and his soldiers arrived at headquarters in the pink of condition, and with hours to spare. The other man managed to get in just on the eve of the battle, but with his force so demoralised and overdone as to be practically useless. There could hardly have been a better practical demonstration of the old saw, "More haste, less speed," or of the less familiar saying by a bygone Lord Mayor of London, "Let us take time, that we may make amends the sooner."

UNDER PRESSURE IN YOUTH.

We have not far to seek in order to discover further illustrations of the same most valuable principle: Always keep up a reserve, and don't draw upon it till you really need. Oliver Goldsmith was looked upon by his schoolmaster as a dunce. That may possibly have been the fault of the latter. I fancy there is something specially narrowing to the mind in a scholastic career, just as there is in a doctor's. That, at least, is my individual experience. Gladstone never took a prize at school, if I remember aright, though he subsequently gained a double-first at Oxford. Those late high priests of science or philosophy, Darwin, Huxley, Tyndall, Herbert Spencer, did not particularly shine in their younger days. Of the last-named we are told:—"He had then as an instinct what later on became a conviction, that any set literary discipline stifled original thought. .... He was by no means a brilliant or steady student, and much preferred desultory observation to application and book work. At no time of his life did he profess to be a reader."

I think most men who have been educated at any large public school will readily call to mind numerous instances of boys who were always winning prizes yet have

not done anything worth mentioning in after life. And I am confident that, upon investigating the early years of those who have led a strenuous and remarkably successful career, it will be found that the majority were rather lazy than not before they entered upon the actual battle of life. Mr. Chamberlain's schooldays seem to have been wholly undistinguished.

And the converse holds good. As a rule there are not very ample records of their early years in the published biographies of celebrities. But we find plenty of evidence that people who in the first stages of their career make prolonged and exhaustive demands on their store of nerve force rarely attain length of days. Whether those demands have been made merely in the pursuit of wealth, or for some more noble object, does not matter, the result is the same. Thus Napoleon considered about four hours in bed "a good night's rest." He joined the majority at fifty-one. Dickens passed over at fifty-eight; his great rival, Thackeray, at fifty-two. Byron achieved his unique reputation in the short compass of thirty-six years, Mozart in thirty-five, Schiller in forty-five. The late Mr. Alfred Beit died at fifty-three, Cecil Rhodes at forty-eight.

The meteoric career of Lord Randolph Churchill is in all men's minds. I remember hearing that marvellously eloquent preacher and lecturer, the late George Dawson, boast in the pulpit of his endurance in youth. It was nothing to him to pass a week without sleep. He died suddenly at fifty-five.

REST—CULTURE.

Except for the happy few who are shielded by the accident of birth, or who are lucky enough to secure a specially protected career from the beginning, hardly any man can now escape periods of extreme tension, when there is urgent demand for all the nerve-energy he possesses. How important, then, in the struggle for existence, daily becoming keener and keener, to store up a goodly reserve of nerve force. Or if that be not possible, to avoid drawing upon whatever residual vigour there may be until this can be employed to the best advantage.

In our modern zeal for education, writes Dr. Herbert Snow in the *Daily Chronicle*, boys and girls are commonly brought up on principles exactly the opposite. Throughout the past half century the prevailing tendency has been to promote scholastic over pressure by every possible means. Quantity has been mistaken for quality. Sometimes the educational methods have involved compulsion, sometimes they have not gone far beyond a system of voluntary temptation. Even now the principals of important schools are often apparently obsessed by an utterly unwarranted notion that excessive study can be perfectly compensated by superabundant athleticism. Has not the time arrived for a reaction?

Let us take heed, and amend our ways. Instead of unduly worshipping the strenuous life, let us rather duly cultivate that fund of laziness with which Nature has, in her wisdom, very properly endowed us. We need not push the culture too far. Indeed, very few of us have the chance. A shrewd German friend once remarked to me: "The best of you English is that you take a certain path. But when you find it is a wrong one you turn back and try another. This is what we Germans can't and don't." That applies to much in the modern educational—perhaps also to the political and social—system.

Let us work in due season, but let us also take holiday; and at all times study how best to husband our reserves. Then we may hope to endure to the end, leaving behind us a record of copious and valid achievements, like the noble lord with whose story this article begins.

DRINKING FORBIDDEN.

THE American Consul-General at Antwerp reports that the use of whisky and other alcoholic beverages by Government or municipal employees during hours of service is practically prohibited in Belgium, with the result that drunkenness is rarely met with in any branch of the public service, and never among railway employees. The importance of prohibiting the use of all forms of intoxicating liquors by railway employees is not only realised in Belgium but also in Germany, where the Director-General of the railways of Alsace-Lorraine has forbidden their use by those engaged on the railways during their working hours. This rule applies to all grades in the service and to all hours of the day. A first offence is punishable by loss of grade and the second by dismissal from the service. The measure was taken in consequence of the accidents which had grown to be rather frequent both on the railway and in the workshops.

—— ARTICLETTES. ——

RULES OF A LIVING IN ESTABLISHMENT.

THE columns of the *Daily News* recently have contained numerous letters showing the drawbacks of the living in system in large shops and warehouses. Commenting on this the same paper says, in its editorial columns: "It is a system which lends itself to abuse, and in too many cases it is abused shamefully. Unwholesome or insufficient food, badly ventilated bed-rooms, and defective sanitary arrangements are combined with harassing and petty regulations, breaches of which are punished by heavy fines. Complicated rules, ranging from dress and deportment to the treatment of customers, confine the lives of the assistants to a narrow circle. The men are robbed of the franchise, and the law forbidding marriage, if unwritten, is no less binding. It is obviously impossible for a man earning £30 a year in cash, plus board and lodging, to marry. The barracks are for single men only. As for the rules and petty regulations, the following are existing examples:—

"Customers must not be allowed to leave the shop unserved before the buyer or shopwalker has been spoken to.

"You are requested to refrain from talking at meal times, except in a low voice.

"After leaving bed-rooms in the morning they will be locked for the day.

"No length, however short, to be given to a customer.

"No flowers to be put in water-bottles or glasses in bed-rooms.

"Young ladies leaving the establishment must remove their boxes the same day."

We have even heard of establishments where it is the rule that assistants may be searched at any moment. Perhaps the greatest scandal of all is that the diet is so poor. Thousands of lads and girls are compelled to make an early breakfast of contract bread, doubtful butter, and badly made tea or coffee, and given no more food until one o'clock or even two o'clock p.m. When the assistants number many hundreds, a penny or twopence a meal saved on three meals a day means an addition of something in four figures to the dividend fund. That is the secret of poor food in large drapery houses, where the proprietors are too often the joint stock shareholders of soulless corporations.

POISON IN FOOD.

EFFECTS of boracic acid, which is used so largely as a preservative in food, upon the consumer are dealt with in a report drawn up by Dr. D. L. Thomas, the Medical Officer of Health for Stepney.

In the cases which have come before him the percentage of boracic acid in butter amounted to 1.1. He calculates that the amount of boracic acid consumed in 2½ ounces of butter would be a little over 12 grains, while the amount of butter consumed daily varies from 1 to 2½ ounces.

According to Dr. Wylie's report to the United States Board of Agriculture, says Dr. Thomas, symptoms of the cases where small doses are given for a lengthened period, or larger doses extending over a shorter period, produce a feeling of fulness and uneasiness in the stomach. In some cases these symptoms result in nausea, with a very general tendency to produce a sense of fulness in the head, often manifested as a dull and persistent headache. In addition there appear in some instances sharp and well located pains, which, however, are not persistent.

After the withdrawal of the preservatives the unpleasant sensations in the stomach and head disappear, although the feeling of depression persists for a more lengthened period.

On the whole Dr. Wylie's experiments showed that 8 grains per day are too much for the average man to receive regularly. On the other hand, he can take the same quantity for a limited period of time without much danger of impairing his health.

"Boracic acid, therefore," says Dr. Thomas, "when continuously administered in small doses for a long period, or when given in large doses for a short period, creates disturbance of appetite, of digestion, and of health generally.

"On this standard the amount of boracic acid in this butter was far above the quantity that could be safely taken for a short period, even if no boracic acid was present in any other article of diet. When it is considered that this preservative is present in milk, cream, ham, bacon, sausages, and certain beverages, the amount liable to be consumed becomes alarming."

OVERWORKED BRAINS.

WE hear a great deal nowadays of the "rest cure" for overworked brains, but according to a medical man, in many cases the symptoms supposed to denote mental exhaustion do not arise from a tired brain so much as from a body enfeebled by want of exercise. When the brain is actively exerted there is considerable waste of nervous substances which should be thrown off from the body. This work should be performed by the bodily organs if they were in a healthy state, but a sedentary life results in the muscles becoming flabby, the digestion feeble, and the circulation sluggish, the result being that the waste products are retained for sheer want of power to expel them. The remedy, then, is gentle physical exercise gradually becoming more vigorous. By such means the brain will be invigorated and rendered able to perform its work with ease.

THE DETERMINING FACTOR IN HEALTH AND DISEASE.

By W. R. C. Latson, M.D.

THE most important factor in the maintenance of health and in the achievement of long life is mental attitude. Back of action lies motive. The action is the shadow of which the motive is the reality. To study motive one must read deeply into the history of the individual and the race. But for our purpose it is not necessary to explore into the mystery of motive. The intervening reality is the mental attitude

The mental attitude is the factor which determines the individual's preferences, aspirations, ideals and habits of thought. These in turn govern his actions, and upon his actions depend his health or his weakness, his long life or his early death.

Let us imagine the mental attitude of a man of thorough education and fine intellect, highly refined, sensitive, kindly, calm, and dignified. His ambition is to realise the highest and best possibilities in himself, and to help others in the same task. Let us further suppose him to be one who in the struggle for a living and for an education has acquired profound knowledge of the world and great will power.

Now, without accrediting our supposititious man (alas, that he must be supposititious !) with any special knowledge of hygiene, let us consider how far his attitude of mind would be likely to lead him to conform to the laws of hygiene as we know them.

Worry is perhaps the most insidious and far-reaching evil of our day—an evil which carries as its consequences a hundred other evils—indigestion (which in itself is a cause of many diseases), insomnia, nervous irritability, anorexia, heart disease, neurasthenia, paralysis, and insanity may in many cases be traced to worry. But worry is the lack of self-control. A man with the proper mental attitude will not worry, and cannot, therefore, suffer from the consequences of worry.

Overeating is another evil which, while less disastrous than worry, is far more prevalent, and is productive of many diseases. Various acute and chronic disorders, such as coryza, sick headache, indigestion, rheumatism, nephritis, typhoid fever, paralysis and heart failure are due to overeating. Neurasthenia or nervous prostration is frequently caused merely by the strain of digesting and excreting an immense quantity of useless food. Sudden deaths from apoplexy, heart failure, heart disease, etc., are often the direct result of overeating. Sudden deaths usually occur about three hours after a hearty meal.

So much for overeating. But our supposititious man, at once refined and simple, will not overeat, for overfeeding is not only unhygienic, it is unrefined. I have known thoroughbred animals that could not be induced to overeat.

Overwork is another prevalent vice of the day. The selfish desire for money, for place, for prestige or power, personal vanity, often, indeed, mere nervous irritability, are among the motives that prompt it. Overwork is injurious, not so much because of the work itself, as because of incidental conditions. Anxiety, worry, monotony, distaste, overfeeding, insomnia, or other concomitant evil is often the real injury. But no man with the proper regard for his mental or physical health will overwork to the point of injury.

A man in normal health, with an active well balanced mind, does not feel the need of stimulants, and will not, as a rule, contract drug habits. It is when depleted by overwork, worry or overfeeding that the desire for stimulation is felt. In the case of alcohol, particularly, excess in diet is probably responsible for a large proportion of the evil. The man who does not overeat, overwork or worry, whose mind is clear and well balanced, has no use for drugs.

So with smoking. Nicotine is a powerful heart stimulant. The heart of the smoker is always rapid. A few hours without the habitual stimulus causes the

heart to slow down, and then the craving for the stimulant becomes so imperious that many smokers awake periodically through the night and take a few puffs in order to keep the heart going. The after-dinner cigar, by its stimulation of the heart, prevents the feeling of lassitude, drowsiness and faintness caused by the various poisons taken with the average "good dinner." But the man with the proper mental attitude does not need to smoke and does not smoke.

Between the mental and the physical there is the closest possible relation. Bodily attitudes are so infallibly distinctive that it is practically impossible for any man to entirely conceal his character from a trained observer. The most obvious effect of the mental attitude is seen in the physique, in carriage, facial expression, and movement. A man of strong will, upright character, dignity and repose is almost certain to have an erect carriage and great breathing power. The man who attains old age is almost certain to possess an erect carriage and large lungs. The most notable sign of health is an erect carriage and a full arched chest. This is more than a coincidence. It is cause and effect. Mental attitude determines bodily carriage. The erect carriage means large lungs, and large lungs in general mean vitality, health, and long life.

The erect carriage of the body is not only productive of increased energy through augmented oxygenation of the blood. It economises force in many ways. The erect carriage is usually accompanied by easy decisive movements. We call it grace; but grace is merely economy of muscular force. When an action is performed with the least amount of muscular force that action is graceful. But it is more than that. It saves vital force, and is therefore hygienic. Grace is more than mere beauty. It is a mark of the highest health. It is the result of proper carriage, muscular relaxation and mental poise. Habitual calmness is an essential to health and long life. Nothing is so depleting to the vitality as mental disquietude. The slightest emotional excitement produces instantaneous irregularities in the action of the fluctuating fluids of the body, the nervous system and the bodily rhythms, such as the heart's action, respiration and peristaltis. Fear, anger, hate, revenge, love, remorse, regret, jealousy—each has an immediate and injurious effect in disturbing physiological ryhthm, upsetting the nervous equilibrium and changing the character of the secretions. Blushing, paling, gasping, trembling, palpitation, faintness, morbid changes in the secretions, these are among the more obvious effects of emotional excitement. And emotional excitability is the result of faulty mental attitude. So are smoking, drunkenness, drug habits, sexual excesses, worry, overfeeding, overwork, passions, indecision and indolence. Faulty mental attitude is the cause of these, and these in turn are the cause of human weakness, disease and premature death.

Would you realise your highest possibilities as to physical and mental powers, health and long life? Learn, then, the truth, that more important even than the study of the laws of the body is the cultivation of the proper mental state. The individual of highest ideals will not, as a rule, desire those things that are for his hurt.

The practical value of ideals, both in their direct effect upon the mind and their indirect effect upon the body is generally unsuspected. Nothing is so unhygienic as immorality; nothing is so important in the attainment of health and longevity as the proper mental attitude.

Is Fear a Disease?

An Indication of Nerve Degeneration.

SOME people are overcome by weird kinds of dreads. A correspondent —a solicitor—of the *British Medical Journal*, was attacked by claustrophobia, and could not rest in a railway carriage, owing to the horror which seized him there. He was first attacked when travelling home from the South of England. When alone in a compartment, a sudden sense of danger, unless he got out of the train, seized him. "I put the fear away time after time," he says, "but it became one of almost terror. This feeling was so intense that when I arrived at my destination, I was very much upset. However, I went again in that year, fairly long journeys by train, but never again in an empty compartment. The pheno-

menon, however, became, ultimately, so painful to my nerves that I abandoned train travelling, except once or twice, and then for very short distances." Two years later he travelled with his medical attendant in a compartment fairly full of people, but, he says, "I could only proceed three miles, when, as I suffered too much, I got out at the first station and returned home much disappointed." About eight years later he commenced to take short journeys, and although the first one gave him "considerable pain at the back of my neck," he persisted, and ultimately conquered, with the result that his general health has benefited.

WHAT IS FEAR?

When commencing to conquer this complaint, this unfortunate sufferer from claustrophobia found that opening the carriage window produced relief. Possibly this feeling of desiring the window to be open is allied to the desire for air in hysteria. He impresses on any similar sufferer that he or she should go by train *voluntarily*, for the sense of confinement as a prisoner is then dispelled; also, never to *fight* the complaint, but to *ignore* it absolutely, and never to allow the nerve impression to remain and be carried to the nerve centres, but to occupy the mind with reading or talking. Claustrophobia, this correspondent believes, is due to fear, and that "when you cure fear you also cure this complaint. Whether fear is a form of nerve degeneration," he says, "I do not know, but undoubtedly the only rational method of treatment is that which effects the repair of the whole constitution of the body. I may state that, in a tunnel, I was considerably relieved; the reason, I think, was that the apparent danger was absent. Speed always increased the fear."

"HEIGHT" FRIGHT.

Another curious disease is "elevation fright," about which very little is known. Dr. R. Ten Eyck Webster, an American doctor, says: "A perfectly normal man possessing average physical and moral courage and fearless of rapidly moving vehicles in large cities will, if afflicted with this strange condition—for it cannot be termed anything else—exhibit almost childish fear at an altitude of one hundred feet or more. At 150 feet, if he is on the roof of a building or is looking from a window, the desire to jump will come so strongly that all his will power has to be exerted to resist. I took one of my patients to the twentieth storey of a building on Broadway, and, knowing my own weakness I got a brother physician who didn't know what elevation fright meant, to make an observation. At the twentieth storey we advanced to a window where the ledge was about level with our waists. In fifty-eight seconds the desire to jump came over each of us simultaneously."

WILL POWER CANNOT OVERCOME FRIGHT(?)

"Both of us," to continue Dr. Webster's graphic narration, "perspired freely in the region of the forehead and in the scalp. My knees trembled, and the longer I looked from that window the stronger became the desire to jump out. I did not think it necessary to continue the experiment longer than three minutes. The similarity of the symptoms convinced me that the effect of altitude on certain peculiarly constituted organisms caused a retardation of circulation in the frontal lobes of the brain, and so brought about the strange psychical effect. This hypothesis was borne out by subsequent experiments, and in written histories of probably seventy-five cases. I was forced to the conclusion that no will power, however strong, could overcome the abnormal impulse, and that it would be futile to try to get used to it by constant practice in looking from great heights."

VALUE OF PHYSICAL TRAINING.

THE following extract from the report of the Inspector-General of the Forces has been circulated for the attention of all concerned: "The physical development of the trained soldier is in some units limited to the period of the annual military training. There are, however, many exceptions, and in batteries where a short daily exercise in physical drill is the rule, rather than the exception, the smart bearing of the men is very noticeable. The new quick-firing field gun and carriage is a heavy one, and the capacity of gunners enlisted under the present standard of height and chest measurement to handle it efficiently in action must, to a great degree, depend on their physical training. I feel confident it is only necessary to make these points generally known."

Instructions have been given that such steps are to be taken as will ensure that the physical side of an artilleryman's training in future is not overlooked.

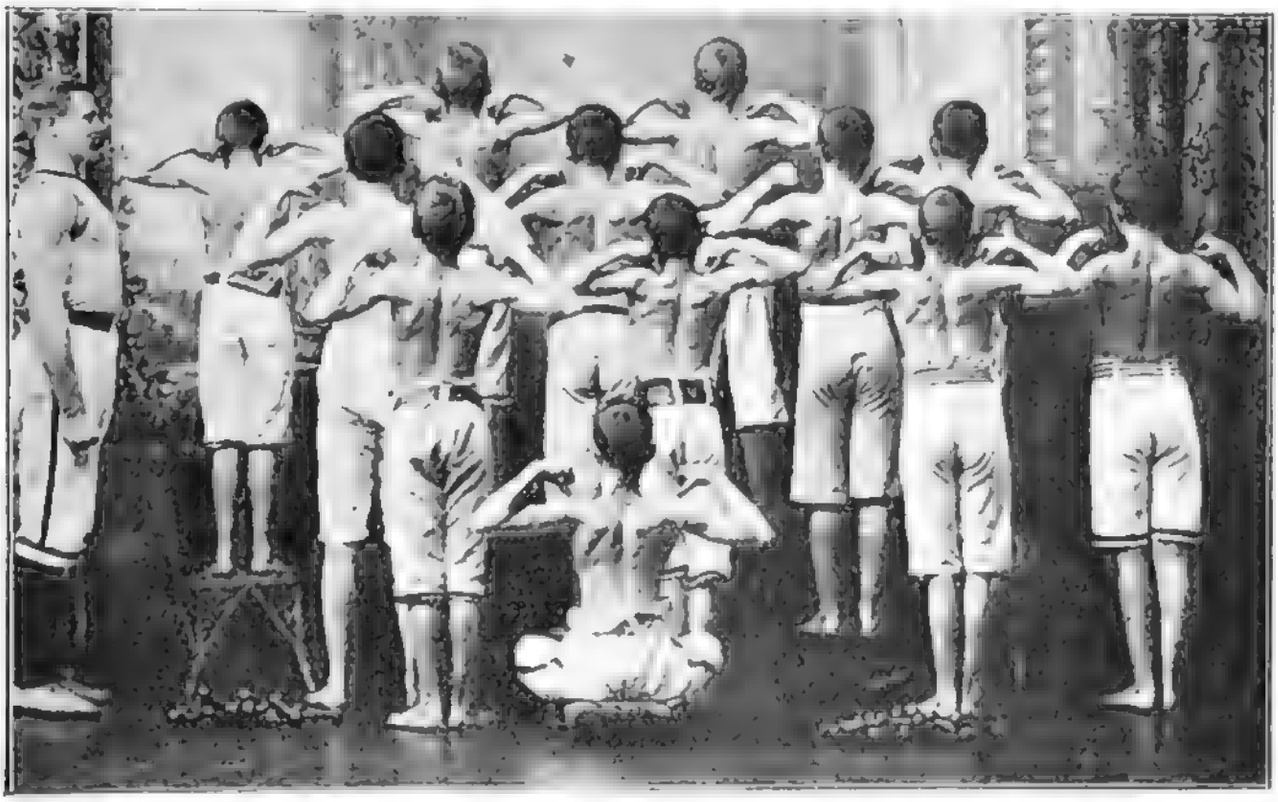
MAN'S VITAL FORCE.

THE REAL CURATIVE POWER IS ALWAYS INHERENT.

By Robert Walter, M.D.

THE great secret of successful treatment of disease is knowledge of the conditions that are necessary to bring into operation the power that does the work. Without the power nothing can be done; but power alone is utterly helpless. At least two things are necessary to the production of any result.

First, the power; and second, the conditions for the operation of the power.



A FINE DISPLAY OF YOUTHFUL MUSCLE.

These are also properly called *causes and occasions*. A cause is "that by the power of which a thing is," while the occasion or condition is that which brings into operation the power. The cause which grinds our flour or makes our electric light or saws our lumber, is gravity in the water, but of what use would be the gravity without the water wheel and collateral machinery to utilise it? The power that runs the locomotive is the force of heat which is due to combustion in the fire-box (chemical affinity), but without cylinder wheels and varied other appliances there would be no forward movement. Just so in the functions of life, the power that carries forward all vital work, whether in health or disease is vital force; but food, and air, and water, as well as varied other conditions, are necessary to determine the kind of work that shall be done.

It is important, therefore, not only that we recognise the necessity of the two things—the power that works and the conditions under which it works,—but we must learn to distinguish carefully between them. And here is one of the greatest evils of modern science and modern philosophy, which is emphatically illustrated in medical practice. The habit of confounding *causes* with *occasions*, otherwise forces with conditions, is a common one, and constitutes the essential basis of modern agnostic philosophy. The puerile

dogma that because a thing is not observable, it therefore does not exist, or at least cannot be investigated, has been too generally accepted by modern writers. Compteism, which teaches that the scientist has nothing to do with causes, is not the sort of philosophy here inculcated.

POWER DISTINGUISHED FROM CONDITIONS.

The very essence of Newtonian astronomy consists in a knowledge of the causes of astronomical motions, notwithstanding the fact that no man ever saw gravity, or any other real cause or force. The real cause of cure in any case of invalidism is invisible; it is the power in the man, and not in anything administered *to* him. And this truth no intelligence can dispute, though no man ever saw this cause or power of cure. We pull the trigger of a gun and a bear falls prey to our aim, but we surely know that it was not the trigger, nor our pressure upon it that killed the bear; it was instead the invisible force stored in the gunpowder that did the execution, the movement of the trigger only liberating the force. Just so, a dose of medicine may once in ten thousand times liberate the power that cures the patient, and so become the occasion of his recovery, but unless the power of cure is first in the man, no medicine can get it out. And as the first important work of every huntsman is to load his gun and "keep his powder dry," so it is the physician's first duty to make sure that the power of cure is stored in the patient before he begins the work of calling it forth and expending it.

ERRORS AND EVILS.

And right here lies the chief evil of medical practice and the source of its failures; physicians neglect the work of recuperating the patient's vitality because they have no deep convictions of its necessity. And even worse, they almost invariably begin the process of exhausting his power through continual dosing, which takes away from the patient just what it seems to give, as we soon shall see. Disease is itself the difficult (diseased) performance of the functions of life, due to deficiency of power as well as to unfavourable conditions. Of themselves these conditions seldom produce disease; the disease comes after the power has been so depleted that easy performance of function is impossible. The unfavourable conditions may be *impure air, water or food, overwork, want of rest and sleep*, want of proper clothing, etc., but men frequently endure these for months or years before disease follows. As long as vital power is abundant, so as to perform vital function with reasonable ease, there will be no disease, no matter how unhealthful are the conditions. Some men may drink whisky, smoke tobacco, live in unventilated dwellings, eat impure food and drink bad water, and yet continue in fairly good health, while others are sick and miserable under the most favourable conditions. They are sick for want of power to be well, and they will never be cured until the power of health and life has been accumulated in sufficient degree to render easy function possible.

And this power will be increased, *not by increasing its manifestations*, but by reducing them in accordance with Life's Great Law, heretofore set forth. The engineer increases the *appearance* of power when he blows off steam, or when he runs his engine vigorously, but does he thus increase the amount of the power? On the contrary, the pressure in the boiler and consequent power to work is increased by shutting off steam, slowing down the engine, and *reducing* its work, not by forcing it to increased activity and adding to its work. Stimulation, which is so common in our day, even the use of tonics, which are slow stimulants, is the perfect example of opening more widely the throttle valve of the engine, adding to its work, and forcing it to extraordinary activity. Who can fail to note that by this means the power is rapidly exhausted, finally causing the motion to cease—the man is dead.

Steam in the boiler may be replenished, it is true, by increasing the combustion of coal; but feeding the patient while it increases the labours of his organism, and adds to the taxation of his machinery, never produces vital force—the power of life. Food is fuel, but increased food given to an invalid is precisely like increasing the fire under a cracked boiler, because of an insane notion that the increased pressure in the boiler will heal the crack. Food increases vital work just as fuel increases the boiler's work, but it can no

more heal the organism than the coal can repair the boiler. On the contrary, if given in excessive amount, it prevents healing, just as high pressure of steam will prevent repair. Every blood vessel in a patient is a conducting pipe which when weakened by sickness may be easily burst if the pressure is excessive, as was clearly illustrated in the case of President Garfield, and as occurs in every case of apoplexy, which is generally due to overfeeding causing excessive pressure of the circulation.

THE STORAGE OF POWER.

Let us now return to a consideration of the relations existing between causes and occasions, or as otherwise expressed, the relations of the *forces which work* to the *conditions* under which they work. We note first the storage of power as the necessary pre-requisite to all work. Gravity is stored in the water of the lake from which it is drawn through pipes to furnish power to water wheels for varied purposes. It is the gravity that does the work, and the water wheel is a necessary condition, but whether it shall grind flour, or make electric light or saw lumber, depends upon conditions. Gravity is also stored in the reservoirs which supply water to the city, but the purpose for which the water is used, whether to run a motor, supply water to bath-room or kitchen or to the fire department, depends upon conditions. Man supplies the conditions and Nature supplies the water, but it is the gravity in it that does the work, the kind of work depending upon conditions supplied.

So, too, the locomotive boiler stores the force which runs the locomotive, but how or where it runs it depends upon conditions. A switch is an ingenious invention for controlling the direction in which the locomotive shall move, but it is the power in the steam, which forces the engine north or south, east or west, or dumps it into the river. In the same way it is the vitality stored in the patient that breathes air, digests food, secretes bile, enables the man to walk or run, gives him pleasure or pain, makes health or disease, in a word, does all that is done; but just what is done depends upon conditions which are largely in our control.

If we put our hand in boiling water, we will suffer pain which will continue as long as the vitality is vigorously at work healing the burn; or we may put our hands in warm water, and wash them clean and get much comfort in doing so. We may breathe pure air, eat good food, take rest and sleep, and enjoy life and health, or we may live in unventilated rooms, eat unwholesome food, work excessively, clothe ourselves foolishly and suffer disease. In every case the power is the same; it is the vital force that gives us the pleasures of health or pains of disease; that digests our food and secretes our bile, moves our bowels and makes us happy and contented, or sick and miserable. And whether we secure the one result or the other depends upon the conditions we supply. Nature does the work, but man determines what the work shall be. It may be health or disease just as we supply the conditions for the one or the other; in either case the work is done by the patient's power of life. Both health and disease occur only in living things, each being the product of life, each the manifestation of its power.

LIFE AN INHERITANCE.

The human organism, as a storehouse of force, bears a wonderful likeness to a reservoir of water, the one containing vitality, the power of life, and the other, gravity, the great mechanical force. The source of the power in each case is analogous, the water containing gravity, coming from living springs on the mountain side, and the vitality from springs of life high up in the realm of being. In both cases the power is first *active* to make, then *passive* to preserve, and again *active* to change, and the reservoir may be either full, half or quarter full, or any degree between. But in neither case can the power be manufactured even though it may be accumulated. The true method of increase is to cease for a time its use, which is done in the case of the water by closing the spigots, and in the case of vitality, by rest and sleep, in which its use has largely ceased. The supply is continuous, so that if the use be restrained and intermittent, as Nature requires, the power will accumulate and vigour be secured, but if use be encouraged and stimulated, exhaustion and death are liable to follow. And as all the pleasures

of life as well as the values of water, grow out of their use, it can be readily seen how great the temptation to use, and why self-denial is the chief virtue, while self-gratification is the greatest of evils.

The avenues of escape for vitality are numerous in the living organism, perhaps as much so as the escape of water from the city reservoir, and the results are the same: the more we use the less remains for future use. And as the enjoyment of anything is secured through its use, it is not wonderful that the use may at times become excessive, and the reservoir be depleted even to complete exhaustion. Vital activity expends vital power—it never manufactures it. Life is an inheritance and not a product; we can no more make it than we can gravity or the matter which contains the gravity, but to waste our inheritance in riotous living is one of the common facts of human life. The cure must come through retracing our steps. "Do different, sir; do different," was the old German's prescription to the importunate patient, and it is one that always applies. If one set of conditions produce disease an opposite set will surely bring health. To sum up the requirements of an exact science of treatment, therefore, let us say that it consists of

Removing the occasions of disease;

Supplying the conditions of health; and

Accumulating the power of life and of cure.

How to Breathe.

IT is no more necessary to teach a child or a savage how to breathe than it is to give such instruction to a dog or a horse. The child breathes instinctively and naturally. But the majority of civilised adults have lost the art of breathing. By wrong habits of dress and by incorrect attitudes, they have so crippled their organs of respiration that the most important and vital function of the entire body is rarely, if ever, correctly and fully performed

The majority of people when asked to fill the lungs, make an unnatural and strained effort of some kind. Many, especially women, elevate the shoulders, raise the collar bone, and expand the upper part of the chest a little, exhibiting the type of erroneous breathing known as collar-bone respiration.

Others, having learned something of the evils of clavicular, or collar-bone, respiration, have cultivated the opposite error, represented in abdominal breathing, in which the respiration is carried on almost wholly by means of the diaphragm. There is a movement out and in of the abdominal wall, but scarcely any chest movement. We sometimes find people who breathe chiefly with one side of the chest, perhaps as the result of an obstruction of the side of the nostril corresponding to the inactive part of the chest. This may be due to the loss of the physiological reflex action which takes place between the nostril and the breathing apparatus.

In children and savages, however, and in long-distance runners and men who have been accustomed to fast walking, also in cows, dogs, and horses, as well as in various other species of the lower animals, we find an entirely different kind of breathing,—waist breathing, or lower chest respiration. This is the natural mode of breathing. Watch the respiration of a child, and you will see that the chest expands most of the lower part of the waist. Remembering the construction of the skeleton, you will readily see the reason for this. You will remember that the first seven ribs are attached directly to the breast bone, while the lower five are not so attached, but leave an open triangular space in front of the lower half of the chest. In other words, in the upper part of the chest the circle formed by the ribs and the spinal column is completed by the sternum, while in the lower part the anterior wall is left incomplete, affording an inverted V shaped opening between the ribs. This is evidently for the purpose of giving greater mobility to the lower portion of the chest. We find further evidence of this purpose in the attachment to the ribs along the sides, of large, strong muscles, so divided into separate parts attached to each rib that the muscles take hold of the ribs individually in the most vigorous manner.

In natural breathing we have precisely the same action as that of a pair of bellows. By the muscles we seize the handles of the bellows, or the ribs, and force them apart, thus drawing in the air, or inflating

the bellows; then we force them together again, expelling the air. The chest corresponds to the bellows, the trachea to the nozzle, the ribs to the handles, and the muscles to the personal force applied to the handles.

How absurd it would be in the effort to expand the bellows to seize it by the nozzle or near the nozzle, and to try to work the handles in and out! Yet that is precisely what we do when we undertake to breathe with the upper part of the chest alone. Such breathing, or collar-bone respiration, is like tying up the handles of the bellows and then attempting to blow the fire by seizing the bellows by the sides and trying to wrench it out and in. Unfortunately, the majority of civilised women are compelling themselves to breathe in just this way, with the handles of the bellows tied up.

One-sided breathing is frequently practised by people suffering from nasal catarrh. The air which enters one nostril brings into play only one side of the chest. Each side of the lungs is controlled by one of the pneumogastric nerves, one going to one side, the other to the other side. The nose is so connected with these nerves that the air entering one nostril excites and brings into play the muscles which control the opposite side of the chest. I am inclined to think that many people afflicted with catarrh breathe through the mouth, not because they cannot get air enough through one nostril, but because the air entering through one nostril affects only one side of the chest, and the breathing through the mouth is an unconscious natural effort to breathe with the whole chest.

In abdominal respiration, the respiratory movement is confined to the diaphragm, and lateral action of the chest is suppressed as far as possible. The diaphragm is forced downward to the utmost extent, the lower abdomen being forced outward to a corresponding degree. The effect of this is to cause downward displacement of the liver, stomach, kidneys, colon, and, in women, of the pelvic organs also. Strictly abdominal respiration, then, is no more natural and normal than exclusively costal respiration.

Observations upon animals, young children, and normal adults show that natural and full respiration involves the expansion of the entire trunk, and is a waist expansion rather than expansion at either end of the trunk. In normal breathing, any great degree of downward movement of the stomach, liver, kidneys, and other viscera is prevented by expansion of the trunk at the waist.

To take a full deep breath, expand, first the chest, breathing in until the entire waist swells out, the sides expand, and the anterior wall expands; then breathe in a little more until the whole abdomen expands; now try to inhale still a little more by lifting the chest and drawing in slightly the lower part of the abdominal wall. This gives a full and complete respiration. The whole lower chest is filled. The diaphragm is brought well up and the upper part of the chest is strongly lifted.

This strong lifting of the chest at the end of inhalation is one of the very best means of aiding the restoration of prolapsed viscera to their normal place, and has the double effect of increasing the negative pressure within the chest and the positive pressure within the abdomen, thus not only helping to lift the viscera into position, but materially aiding the portal circulation.

Exercise and Indigestion.

THERE are probably more persons in the world to-day suffering from indigestion than from any other known ailment. And so long as people eat too much, too fast, and improperly, they will have stomach troubles. There are various things which hinder digestion and eventually, if these causes are not removed, cause indigestion and dyspepsia.

EATING TOO FAST.

In this case the food is taken down without being properly prepared by chewing. When the food is not properly masticated, and swallowed in masses entirely too large, the juice and fluids do not readily get access to the swallowed particles and eventually cause fermentation. Some claim that chewing the food properly is one half the digestion. This is probably a radical statement, but if one chews one's food properly one's digestion will be

greatly assisted. If the stomach had teeth many would be helped; a deplorable fact for some that it has not.

TOO MUCH FLUID.

When food is eaten rapidly or when too much fluid is partaken of during meal time, there is not enough saliva mixed with it. When saliva with its alkaline re-action is introduced into the stomach it excites the secretion of acid gastric juices. When a scanty supply of saliva is mixed with the food the gastric juice is also scanty because it has not this saliva excitant. Too much liquid taken at meal times tends to dilute the gastric juice and thus weakens its power in the process of digestion. It were better that food were not mixed with fluids during meal time. Who ever saw a horse leave his oats to take a swallow of water and then return to his food?

MENTAL EFFORT.

If after a heavy meal one uses his mind much the blood is called to that organ when it is needed by the stomach. This is also true with heavy muscular work. There is not enough blood in the organism to supply muscles, mind and stomach, or any two of these organs at the same time, Vigorous thinking and vigorous digestion will not go in the same organism at the same time. Do not read or study during a meal. At meal time put your thoughts on your mastication and digestion.

GREAT FATIGUE.

No careful horse owner will feed his animal immediately when he comes in tired and heated. Food swallowed under such circumstances will be digested with considerable difficulty by man or horse.

TOO MUCH FOOD.

There is a limit to the amount that can be digested. The stomach may be so full, the peristaltic motion will be interfered with, or the digestive fluids cannot fully permeate its contents. These parts of the mass which are not digested will soon decompose, producing acidity and a pressure of gas.

MUSCULAR INACTIVITY.

In a sluggish condition of the body, the digestive juices flow slowly. The food in order to be thoroughly mixed with the gastric juices must have peristaltic activity or much motion, and this can be had by vigorous muscular exercise.

As muscular inactivity decreases the power of the digestion so activity increases this power. When the digestive apparatus is weak or impaired it becomes the seat of almost constant pain and discomfort. The appetite is lost, the strength fails, the nerves become irritable, and the brain is clouded. It is important therefore to exercise faithfully and persistently, as this we believe is the most important factor in the cure of indigestion and dyspepsia.

TIGHT CLOTHING.

The wearing of tight corsets has an evil effect on the stomach, as it crowds it so that it has not the proper room in which to work. If one ties a string around a finger it becomes cold, numb, and lifeless. Tight clothing, belts, etc., around the waist restrict the proper working of the organs in the chest and abdomen.

ALCOHOL.

Alcohol irritates the mucous membrane. In the famous case of St. Martin, the inside of whose stomach could be seen through a wound, Dr. Beaumont found that alcoholic liquors produced a state of inflammation and ulceration in the living membrane and change of the gastric juice. Tobacco in all its forms, condiments such as pepper, mustard, catsup, spices, etc., are hurtful to the stomach, and should not be used if we would have this important organ strong and in good working order.

IRREGULARITY IN EATING.

The digestive apparatus is subject to habit like the rest of the system; at the accustomed meal time the saliva and other digestive fluids flow though no food is taken. When that time is passed they do not start so readily. Too much starch or meat are likely to be injurious to many. Heavy stimulating foods in summer are bad. There are other things which will eventually lead to indigestion such as very cold substances, worry, fear, anger, discontent, jealousy, malice, improper carriage of the body and shallow breathing.

General exercise is effective in the cure of indigestion as it increases the circulation of the blood and this in turn stimulates the stomach, and in fact, all the organs of function. Exercise is most effective in the cure of indigestion as it agitates the large abdominal groups. Cer-

tain exercises also alter the shape and size of the abdomen. Deep breathing before or after a meal is good as it introduces more oxygen into the system, and oxygen is like fuel for the fire.

Exercise increases the respiration act and the added oxygen taken into the system causes the blood in the veins and arteries to pulsate with increased vigour. Under the influence of this powerfully oxygenated blood the intestines perform their peristaltic movements, which are necessary for digestion, with more energy.

A FINE OUTDOOR EXERCISING GROUND.

The digestion and assimilation are increased under the stimulus of exercise.

Most persons suffering from indigestion have flat chests. Ths carriage of the body is improper; the head is projected forward; the shoulders rounded and the abdomen protruding. If one desires health, one must carry the body properly at all times. The best way that we have found is to stand with the back to a wall with heels, hips, shoulders and head touching. If one would know if his carriage is proper, let him try this and then practice carrying the body in this position at all times. The chest should be thrown out strongly, the abdomen drawn in, the hips slightly extended, and the chin drawn in toward the chest.

Besides exercising, take daily baths (learn to take them cold), practise deep breathing, cultivate a cheerful contented disposition, take fast walks in the open air and study the foods which you eat.

Some advocate two meals a day. We have tried this for months and found it very beneficial. The danger in the two meal a day plan is over-eating. In fact, whether two or three meals are partaken of most persons will eat too much. Eat wholesome food slowly and chew it thoroughly.

WORKHOUSE AS HEALTH RESORT.

THE workhouses were the most healthy places in Ireland last year. The annual report of the Local Government Board for Ireland states that seventeen centenarians died in the workhouses. One woman, in Limerick Workhouse, died at 113, one man at 109, two at 105, one woman, 104, and two 103. All the others were 100 and over.

CHAMPIONS IN UNIFORM.

New York's Police Force numbers more Record Holders than any other body of men in the world.

[*We have many splendid athletes in the police forces of our large cities, but the New York Police Force in this direction stands unequalled, as the following article shows. The article appeared in the* NEW YORK WORLD, *and is full of Americanisms, but none too puzzling to be understood by a British reader.*—EDITOR.]

HOW many dyed-in-the-wool New Yorkers know that the New York police force counts more champion athletes, past and present, among its numbers than any similar sized body of men in the world?

Three would-be toughs who answer to the names of Thomas and Patrick Mahon and Hugh Collingwood know it all right. They saw a fine looking young fellow strolling up Third Avenue the other evening with a young lady on his arm. He was in evening dress and he wore a top hat.

Promptly they called him Harold and offered to slap him severely on the wrist just because he wore dress clothes. They did not know until somewhat later that they were trying their game on Policeman Thomas McGuire, off duty. They knew it after all three had been well trounced and taken to the East Sixty-Seventh Street station, under arrest. They just happened to try a police athlete by mistake.

Several Greeks likewise know, even if New Yorkers don't, that the New York Police Department has a champion athlete or two. It was Patrolman Martin J. Sheridan, just a plain bluecoat constable, who carried off two firsts in the Olympic games at Athens a short time ago and took three seconds to boot—nineteen points out of the Americans' seventy-five points. This, of course, gave the American victory and contributed largely to the team's total of seventy-five points.

There is his brother Richard, for instance, of the boiler squad, whom you can find any day at police headquarters working as hard as the best of them. He holds all kinds of records for the championships as well as an unblemished record as a policeman.

"Dick" Sheridan is even bigger than his famous brother, and holds pretty much the same kind of records with the discus and the weights. He has been holding Metropolitan and National championships since 1899. That year he was Metropolitan champion with the discus, and repeated the trick the next year. At the Buffalo Pan-American Exposition he became National champion with the discus, and held the title the next year.

Brother "Marty," Olympian hero, doesn't take all the honours. Dick was National champion with the hammer in 1900 and Marty had to be content with second place. Still it was all in the family. In 1905 Dick also won the hammer championship of Canada, with Policeman Ellar, another New Yorker, second.

But back to fistic prowess for a moment. The three toughs would have found other policemen beside McGuire equally handy with their dukes.

Suppose they had tackled Policeman Jim McCarthy, Charles Kammer, or William Ronkey? The first and last of them have been amateur heavy-weight champion boxers, and Kaumer has been champion middle weight. Billy Mack isn't so big, but he won the 135-pound championship in clever style when he was a youngster and didn't go down once. Morris Harnett, now Inspector Kane's right hand man, was once a Metropolitan champion at boxing. And the list could be lengthened tenfold.

As for baseball players, there are a score of youngsters and old-timers who can play in champion form yet. Of course, the dean of them is John Lynch. He pitched for the Metropolitans of the American Association, when they were the champions.

Then there are Policemen Delaney and Tom Donohoe, both crack league players and both bluecoats with fine records.

Policeman Joseph Veitch, of the Fifty-Eighth Precinct, has played star ball with the New York State, Connecticut, and Southern Leagues.

Policeman William Kiely is the department's star oarsman. He is up in Bathgate Avenue, far from any water now. Time was when he held the Amateur Championship of the Harlem River at the single sculls, however. In 1905, too, he won the intermediate single sculls at Philadelphia against the best talent in the land.

Of course, everybody knows about John J. Joyce, one of the fastest long-distance runners in the world. He is A No. 1 at anything from a mile to ten miles. He holds the world's record for the fastest ten miles indoors—56 min. 20 sec. No highwayman or pickpocket could run away from Policeman Joyce, of the Fifteenth Precinct, former National long-distance champion.

His equal in the short distances is Frank Peabody, attached to the Detective Bureau now. He has done his 100 yards in ten seconds, and has made a world's record for fifty yards.

Policeman Edward Strupel is now a horse policeman, but his athletic feats are performed on foot. He is the Department's star cross-country runner. In 1901 he was one of a team of six that won the cross-country championship for the Pastime Athletic Club. He is good at anything from a quarter to five miles. He is also a clever short and middle distance runner.

Policeman Daniel Sullivan is one of the star jumpers of the force. He won the Metropolitan Championship in 1899, clearing the bar at six feet. At present Otto L. Sauer, of the Twenty-Fifth Precinct, is the Department champion at both high and broad jumps.

Michael J. Cregan, of the Central Office, is known as "the athletic cop." He has won more varying honours probably than anybody, barring the Sheridans and John Flanagan.

At present Policeman Flanagan, who has all of Crotone Park for his beat, holds the all-round championship of the Department. Cregan comes second to him. Flanagan holds all sorts of records for the weights and hammers, as well as the discus. He has been world's champion. He can run, too, and holds the heavyweight 100 yards record. Despite his 220 pounds he can go the distance in twelve seconds.

Cregan, on the other hand, has the call in the short-distance runs. He holds the Department championships in the 100 yards, 220 yards and 440 yards. He is second to W. P. Beecher, another light footed policeman, of the Third Sub-Precinct, in the 220 yards hurdle. Policeman E. M. Carrette, of the Second Inspection District, is another crack, and he now holds the Department championship for the mile. Few athletes can keep up with him when he is in training.

Suppose you turn to strong men for a change. How about "Ajax"? He is now Bicycle Policeman Selig Whitman, champion strong man, and he holds all sorts of world's records for strength.

He holds the world's record for lifting weights with his teeth. He can move a loaded freight car unassisted. He can tear two packs of cards made into one deck. He can turn a forward somersault with a twenty-five pound dumb-bell, and he can pull a tug of war with his teeth against a team of four men. And more than this—his great strength has more than once helped him to save life and capture criminals. He has made more than 2000 arrests. Once he captured four would-be rioters at one fell swoop, lugging two in each hand to the station house. Now will you be good?

There's one policeman who can box as well as he can wrestle. That bluecoat is Policeman Nicholas Goodman. In the arena he used to be Nicholas Elliott, winner of many bouts. He was Sharkey's sparring partner and Roeber's wrestling partner. Now he is content to patrol his beat and see that the laws are enforced. On his day off, however, he can don the mitts with the best of them yet, and on the mat takes a champion to hold his own.

Roundsman John McCarthy is another crackerjack. He came to this country in 1888 with the Gaelic athletic team to show what he could do with the weights. He liked New York so well that he stayed and went on the force. Many a first has he won with the weights. Another weight

expert is Policeman P. J. Dinan, who was Metropolitan champion with the discus in 1900.

Where in the world could you find any body of 9000 men that could produce the same number of champions ?

Don't try. You couldn't !

A Maker of Centuries.

"The Best Batsman in England."

A LITTLE over fifteen years ago, or, to be exact, in the month of April, 1891, a number of youths, all between the ages of seventeen and nineteen years, gathered at the practice nets in Kennington Oval, awaiting the opportunity which was to be given for each to show his prowess.

One, a young fellow, keen of eye, with good shoulders and massive arms, took his place at the wicket and commenced to bat—quite unnoticed at first—for one sees such a sameness about the trial practice every spring—but this young batsman shaped with such an air of confidence, showing every ball the full face of his bat, that the late George Lohmann, one of the finest judges of the game, turned to the writer, and said:

"There is a man who will make a name if he is not spoiled. By gad! that chap will be the best batsman in England. You wait and see."

That young man, fresh from the country, was Thomas Hayward, to-day the greatest batsman of the season, and one of the most correct and scientific cricketers of his time.

Last year Hayward developed into a "stonewaller" who never ran the slightest risk, remaining content to play for his average. The Oval authorities and those behind the scenes who knew the remarkable strength of those wrists and arms, marvelled at the sacrifice a naturally brilliant batsman was making on behalf of his county. He was at that time the only dependable man in the eleven, the one man who, game after game, saved his side when it appeared to be fast running on the down grade.

Only the example of steady play could instil confidence in the minds of the other ten men, whose very brains seemed to be dominated by this great player. He stuck to the slow-and-sure method, despite adverse criticism, but to-day, seeing his side thoroughly strengthened, and not having to rely upon one man to win matches, he again charms the spectators with that correct brilliance which can only be associated with the name of Hayward.

To see this great master of batting when he is at the wickets is an education in itself, whether he is playing a defensive or an offensive game.

If Surrey is fully represented and the wicket conducive to scoring, you will see him play a ball to cover-point or mid-off and jauntily, almost skippingly, pretend to steal a short run. This is a sure sign that he is in his happiest mood, and the spectators settle back into their seats, knowing full well that they are going to see Tom at his best. But if you see him looking doubtfully at the turf, conversing periodically with his partner, and with but a poor side to back him up, you know Hayward is going to attempt something which may well weary all but the real enthusiast—to "stone-wall," and so wear down the bowling to make it easier for the other members of his side to score.

Hayward started to qualify by residing in the county of Surrey in the spring of 1891, playing regularly in all "club and ground" matches during that season. His batting average was over 60 per innings. The following year his figures were absolutely phenomenal, his average working out at 99.

Since then he has played regularly in the county eleven, his best seasons being 1899, when he scored 2647, and had an average of 58; 1900, when he scored 2693, with an average of 53; 1901, scoring 2535, with an average of 50; 1904, when his total was 3170, averaging 54; and last year averaging 44, with a total of 2592.

Up to the end of last season Tom Hayward had scored in first class cricket, entirely apart from his performance in the Colonies, 24,530 runs.

To score this vast number of runs day after day, starting at twelve noon, and drawing stumps at half-past six in the evening, with an average of fifty runs per hour, Hayward would have been batting from the first day of May until the commencement of the football season in the autumn.—*Answers.*

IN THE ARENA OF SPORT.

F.A. AND PLAYERS' HOLIDAYS.

THE Football Association has asked for explanations from the Liverpool and Everton Clubs with regard to holidays enjoyed by their players during the close season. Everton, it is understood, took the whole of their players and officials to London during the Derby week, while the Liverpool players were taken over to Paris. The suggestion is that payments made by the clubs for such purposes are infractions of the wage limit.

IT is understood that V. J. Woodward will make his reappearance in the Tottenham Hotspur forward line on the occasion of the Southern League visit of Norwich City on September 22nd.

FOOTBALL IN FRANCE.

FRENCH foot ball players who play the Association game are quite as keen in a way as the League clubs in England. Many of the clubs round Paris, despite the heat, have had practice games, and at Boulogne-sur-Mer the local club has scored a victory over the Racing Club de Roubaix, last season the champion team of France.

MEW'S GOOD FORTUNE.

HORACE MEW'S Channel swimming performances have raised so much enthusiasm in the Isle of Wight that several residents there intend, if he will allow them, to provide the cost to enable him to try again next summer. This will enable him to make better arrangements than when paying his own expenses.

M.C.C. TEAM FOR NEW ZEALAND.

WE learn that Captain Wynyard will captain the M.C.C. team during their tour in New Zealand this winter.

MANCHESTER'S NEW GOALKEEPER.

THE transfer of William Hall from Bolton Wanderers to Manchester City has now been arranged. Hall's ability as a goalkeeper was discovered in a trial game, and he had a good season with Bolton Reserves, after which he went to Bristol Rovers, playing in the Southern League last season. Twenty-three years of age, Hall stands 6 ft. high.

PILGRIMS' TOUR IN AMERICA.

FOLLOWING in the wake of the Corinthians' F.C. tour, the Pilgrims are repeating their visit to America, but with a much stronger side than last autumn. They leave in the "Empress of Ireland" (Canadian Pacific Line), and will be in America until the beginning of December. They will play about a couple of dozen matches at New York, Philadelphia, Chicago, Boston, Toronto, Quebec, Montreal, San Francisco, St. Louis, Galt, Preston Springs, etc. Two matches will also be played at Berlin, and they will participate in the competition for Sir E. Cochrane's cup. It is expected that during their visit to the States President Roosevelt will entertain the side, which will again be captained by Mr. F. H. Milnes (Sheffield United), and will also include the old Oxonian, O. T. Norris, J. D. Barnsdale (Notts), V. J. Woodward (the International 'Spurs' forward), E. Barnett (Guy's Hospital), W. H. Williamson, C. E. Wilson, F. Walmsley, and others.

J. W. HOOTON, 100 YARDS CHAMPION.

From "How to Sprint 100 yards," published by The Spalding Athletic Library, 3d., post free.

FAMILY OF CYCLISTS.

THERE is one interesting fact concerning Mr. Harvey du Cros, M.P., by the way, which may be mentioned, says a writer in *Cassell's Saturday Journal*.

Both he and his sons were wonderfully speedy cyclists — so speedy, indeed, that they hold between them seven to eight hundred trophies won on the racing path. No other family in the world can claim to have beaten this extraordinary record.

THE EVILS OF NERVOUS EXHAUSTION.

ALTHOUGH the many symptoms which go to make up the condition called "nervous exhaustion" have long been recognised, it is only of comparatively late years that any really definite significance has been attached to the term "neurasthenia." This is one of the troubles which it is the fashion to class among the diseases of modern life, but which has undoubtedly existed in more or less marked degree since man became civilised. Like hysteria, neurasthenia is popularly regarded as something which betrays a weakness of will power on the part of the sufferer, of which he or she ought to be thoroughly ashamed, but we need hardly dwell upon the absurdity of this theory. Of one thing there is no doubt, and that is, that the loss to the world and the sum of individual misery resulting from untreated cases of this kind are incalculable. The truth of this statement can scarcely be appreciated by the ordinary person, who may perhaps have heard of one or two cases among his acquaintances or neighbours, or may even have more intimate knowledge through the affliction of some member of his own household; but to the neurologist the aggregate of wretchedness furnished by hundreds of thousands of cases is appalling. A predisposition to neurasthenia may be inherited, but the disease itself is the result of a disobedience of hygienic laws, of over-work with worry, strain of mind and body, severe study unbroken by terms of relaxation, of insufficient sleep, or, perhaps, of some severe physical or mental shock, for which the sufferer is in no way responsible.

THE SUBJECT OF THE CAUSATION

of this condition is a very complex one, embracing, as it does, a consideration of factors that concern not only the hereditary aspect of the individual, but also the educational, the latter term being used in its very broadest sense, and it may be taken that these two factors—heredity and education—are the most important elements among what we may term the predisposing agents in the genesis of the morbid state under consideration. There is another very important factor, and that is occupation. At the present day, no matter what a person's calling may be, there is keen and constant competition, every man's hand is against his neighbour, and the result is incessant toil, high pressure, nerve tension, and its inevitable concomitant—brain fag. Moreover, this condition of affairs is not confined to the male sex, but the female portion of the community is equally affected; for example, taking the upper middle classes, there is the constant striving to improve the social condition, to shine in Society, to emulate in the matter of social functions, the doings of those in a higher position, and to outvie their neighbours in dinners, evening parties, etc. While in the lower middle classes there is the never ending anxiety to keep up the home on very slender housekeeping allowances, to maintain the children decently dressed, and, with it all, to keep the good temper and amiability that the husband expects when he returns full of his own troubles, to his home at night.

NEURASTHENIA

was once characterised as an essentially American disease, but this, if it ever were so, is by no means the case now, for at the present day it is quite as prevalent, if not more in evidence, in this country than in America. The average American has no more inherent liability to suffer from undue exhaustion of his nervous powers than the representative of any other nation on earth. The entire nervous system, so delicate, so minute, and complicated, acts on the brain in a most powerful manner, and also the brain acts on the nervous system; the mental tone depending, in a great degree, upon the normality of the bodily organs, as well as the nutrition derived from food itself. How different is the opinion entertained nowa-

days as to the brain cortex to that of fifty years ago; thus our opportunities being more numerous and our knowledge greater, it follows that our responsibility is increasing in a corresponding ratio. The powers of the nervous system are most varied, and also mutually opposed in many instances. Intellectual feebleness, decay of memory, and incapacity for thought may be present, and the body remain strong and healthy, and *vice versâ*. It appears as though there existed a distinct power of the nervous system which may not fail when the intellect declines, or may cease while the intellect continues unimpaired, a function in individuals very unequally manifested, and this brings us to the fact that there is distinctly in the nervous system a limit of tension.

TO REACH THAT LIMIT

every step is an increase of pleasure and enjoyment; exceed it, and a complete change of experience is produced—uneasiness, irritability, and positive pain. We have hitherto been content to apply the name neurasthenia to a combination of ambiguous nervous symptoms, suggesting a very vague pathology, and bearing no apparent relation to others which are classified under well known diseases of nervous type—such, for example, as locomotor ataxia, or spinal myelitis, where we have certain groups of symptoms which serve fairly well as distinctive features of distinct maladies. The reason is that in neurasthenia, the symptoms are nearly all subjective—that is to say, there is very little that can be deduced without the aid of the patient himself. We rely upon the sufferer for a detailed account of what he feels, and owing to the fact that there is frequently nothing in the appearance of the patient to proclaim that he is suffering from the dire effects of nerve exhaustion there is more often than not a lack of sympathy expressed for him, and many who do not look below the surface, and being deceived by the seemingly healthy appearance of the sufferer, confidently assure him that there is nothing the matter with him, and that he must try and not dwell upon his troubles! Were he a poor, emaciated, anæmic spectacle, with some obvious physical cause to account for his symptoms, plenty of advice, combined with the resources of the pharmacopœia, would be forthcoming, but because he is as a rule, a man apparently younger than his years, strong looking, well built, and of ruddy complexion, his tale of woe is endured with a cynical smile, and he gets scant sympathy, though his sufferings from lassitude, nervousness, and insomnia are excessive.

THE SYMPTOMS OF NEURASTHENIA

or nervous exhaustion may be divided into the following classes: (*a*) those in which head symptoms are prominent; (*b*) those in which the symptoms point more especially to the spine; and (*c*) where the two classes are more or less equally combined. Under (*a*) the symptoms are connected both with the bones and scalp, and the contents of the cranial cavity. Tenderness of the scalp, a feeling of fulness in the head and ears, disorders of the special senses, such as spots before the eyes and noises in the ear, tenderness of the gums, deficient thirst, gaping and yawning, rushes of blood to the head, mental impairment, loss of memory and intellectual control—these latter chiefly indicating that the seat of the disorder is in the brain. In (*b*) there are local spasms of the muscles, local chills and flushings of heat, shooting pains in the limbs, burning or tenderness, with other vague pains, at the bottom of the feet, sexual debility, with pain in the back, dryness of skin, dryness of joints, and dilated pupils. In addition to these, there are other symptoms, such as nervous dyspepsia, constipation, flatulence, numbness, and insomnia, which symptoms may be put down as belonging to class (*c*). There are, moreover, certain peculiar facts connected with nervous exhaustion which need further detail. There appears to be a peculiar irritability in the temper of the individual, which condition extends also to the organs of the body.

THE HEART IS GIVEN TO PALPITATION

without any apparent cause, just as the blood rushes into the face under the most trivial excitement. The stomach

regurgitates food at indefinite periods, without rhyme or reason, and there is tenderness over the spine and breast. The redness of the white of the eye is fleeting, but the pupils are unwontedly active, becoming rapidly dilated and contracted by turns; sometimes they are even unequal. The retina is exceedingly sensitive, and the eye becomes very painful after reading for any length of time, and may remain so for a period varying from half an hour to three months. The voice becomes soft and faint, exhibiting a want of courage; it gives the idea that the person speaking is very deaf. Another group of symptoms is classified under the head of "morbid fears." The first to which we will draw attention is astrophobia, or fear of lightning. This, though common in even healthy individuals, is intensely exaggerated in the neurasthenic, and is accompanied with headache, numbness, and pain in the back of the head, nausea, vomiting, diarrhœa, and, in some cases, convulsions.

THESE PEOPLE WATCH

even the fleecy clouds of a hot summer day, anticipating the horrors of a dreadful storm, at the same time being perfectly aware that their fears are groundless. A very common form of morbid fear is an aversion to society, or a fear of mingling in a crowd. This is sometimes so pronounced as to compel the sufferer to give up the occupation in which he is engaged, as he is unable to face his fellow creatures for the purpose of carrying out transactions of a business nature. When you meet such people as these, their eyes are averted, and the face is turned away, with an expression of humility and bashfulness, thus indicating a feeling of inadequacy and incompetence. This phase of morbid fear has also its opposite—a fear of being alone. Some of these persons cannot travel alone, but have no difficulty in travelling if they are in company with someone. A morbid fear which is very familiar to all of us is a fear of diseases. This is seldom found alone, but is generally in company with other symptoms—some real disorders of the nervous system. Another very eloquent symptom of nervous exhaustion is that the sufferer appears to have no power of concentrating his attention, and will pick up a newspaper or novel and read several paragraphs without knowing anything whatever about the subject matter, or he will attempt to write a letter and throw it up in despair before he has completed a single page.

AS A MATTER OF FACT,

the nervously exhausted man is always in a condition of general inaptitude, physically insolvent, and unequal almost to the task of living. His life is a burden to him, and he becomes a nuisance to himself and to all around him. A peculiarity to which we have already called attention is that the looks of people suffering from nervous exhaustion belie them. With all the above symptoms, nervous exhaustion, says *Health*, is compatible with the appearance of perfect health. It is for this reason, as well as on account of the vague and fleeting nature of their symptoms, that sufferers from this disease frequently receive so little sympathy. It cannot be too often repeated that a patient may be of great size and weight, and have a muscular development both large and hard, capable of great physical endurance, and at the same time be in his nervous system as weak as a bed-ridden, hysterical girl.

SLEEP AND DIGESTION.

There is a time honoured notion that a nap after meals promotes digestion, and filled with this belief a large number of persons habitually take a nap after dinner, and think they are doing the precise thing for their health. There are other good authorities, too, who claim that sleep during digestion clouds the mind and predisposes those who indulge in it to apoplexy and stupidity. A foreign scientist has made this subject a study, and by exhaustive experiments has discovered that sleep does not aid digestion, but rest and a horizontal position are of great advantage in promoting the proper conditions for perfect digestion and assimilation of food.

NUMEROUS readers have inquired where they can obtain the new grease remover "Ethol" mentioned in a recent number. The manufacturers of this are Messrs. Parke, Davis and Co., 111, Queen Victoria Street, London, E.C., who will be pleased to answer all inquiries and supply sample tins, on receipt of P.O. to the value of 1s. 3d., post free.

CHALLENGING THE CHANNEL.

Some Wonderful Swimming Feats.

VERY nearly thirty years have elapsed since Captain Webb accomplished the unique feat of swimming the Channel. It was on August 24th, 1877, that this bold swimmer jumped off Dover Pier, and after 21¾ hours in the water landed 200 yards from Calais Pier. The feat brought him not only fame, but hard cash. Members of the Stock Exchange contributed £300, and another subscription for his benefit totalled £1100.

It has often been said that Captain Webb must have been favoured with exceptionally easy conditions of tide, and there is probably truth in this statement, for, in all the twenty-nine years that have since elapsed, no one else has succeeded in swimming from England to France, or *vice versâ*. At least, there is no authenticated instance of anyone accomplishing the feat. "Haydn's Dictionary of Dates" gives, however, two other cases. Mention is made of a Mr. Cavill having, in the same month and year as Captain Webb, swum from Dover to Calais in the incredibly brief time of twelve hours. Also, a Mr. Davis Dalton, an American aged thirty-eight, is recorded to have crossed by swimming from Boulogne to Folkestone in August, 1890. But doubt has been thrown upon both of these feats, and neither has been accepted as authentic.

WHY HOLBEIN FAILED.

Though Mr. M. Holbein has so far failed in his attempts to swim the Channel, it has not been the distance which has foiled him, but the strong tides. This he has proved by his performances in other waters. In the Solent, he once swam forty-three miles at a stretch. He is not only a very powerful swimmer, but can upon occasion travel very rapidly. Two years ago he did the distance from Dover to Deal along the coast—a good eighteen miles—in four and three-quarter hours. What made his performance all the finer was that the sea was so heavy that all the passengers in the two pilot boats which followed him were wretchedly seasick.

A favourite ambition of the first class swimmer is to cross the Bosphorus. The distance is nothing—a little more than two miles—but the current is tremendous. On August 22nd, 1901, a young Belgian, son of the Comte de Dudzeele, accomplished this feat. Starting from the Kavak, near the Black Sea, he landed three hours later at Scutari, near the southern entrance to the Strait.

More recently, two ladies succeeded in accomplishing the same task. They were Miss Wood, daughter of Vice-Admiral Wood, and the wife of the German Military Attache at Constantinople. They crossed the Strait at its widest part.

GREAT FEATS BY WOMEN.

Women, in spite of inferior physical strength, press men much more closely in swimming than in any other sport. Among lady swimmers, the first name that comes to mind is naturally that of the Misses Beckwith. When only fourteen years old Miss A. Beckwith covered the five miles between London Bridge and Greenwich in the amazingly short time of one hour and eight minutes. She was helped by the tide; but even so, the feat is no mean one for a child of that age. Her sister, Miss Cora Beckwith, has floated ten hours a day for forty consecutive days.

In 1875, that year of big swims, Miss Emily Parker did the seven miles from London Bridge to Blackwall in one hour and thirty-five minutes; but the champion lady swimmer of the present day is certainly the Austrian, Madame von Isacescu, who has over and over again beaten, in open competition, professional male swimmers. This lady's two finest performances have been upon the Danube three years ago, she swam from Stein to Vienna, forty-seven miles, in eighteen hours, and the next season she swam from Vienna to Presburg and back—thirty-six miles in all, half of it against the current—in fifteen hours.

What is probably nearly a record for combined distance and pace was accomplished in July, 1903, upon the same river—the Danube. Two students, Groah and Piowathy, swam thirty-five miles down stream in six hours and twenty-four minutes.

READERS' CLUB.

President - - EUGEN SANDOW.

Motto:—One may help Many.

For the exchange of ideas, personal experience and photos for the encouragement of Club Members. Every Reader is a Club Member.

Readers are expected to act up to the Club Motto, and for services rendered the President will award to the reader of every published idea, experience or photo, the Club Fellowship Medal as a token that the rightful owner has earned the Fellowship of the Club.

Works with Ease.

Brechin, N.B.

SIR,—I have much pleasure in telling you what your advice has done for me. I may state that I am an apprentice blacksmith, and each night after work I used to be tired and worn out. While going for a swim one night I met over a dozen men and boys who invited me down to their exercising place. I went over a few of the exercises and was told to come again next night. Since that night I have obtained a pair of your spring-grip dumb-bells, and go to the same place each night. I may tell you that now I go about my work with ease, and am able to go for a long run on my cycle any night I choose. Thanking you very much for the information I receive out of SANDOW'S MAGAZINE.

HENRY CHRISTIE.

Stomach Troubles Disappear.

Ayr, Scotland.

SIR,—Being a reader of your excellent magazine, and one who has derived great benefit from your system of physical culture, I am here sending my experience to your Readers' Club. Before starting physical culture I was troubled very much with biliousness and other stomach troubles. A friend of mine, who is already a proud possessor of one of your Fellowship Medals (A. E. Henderson), advised me to follow your system, as it had done him good. I took his advice, and after exercising with your developer my troubles have disappeared. I have been using your developer for about two years now, and besides being in the best of health, I have made a noticeable increase in my development. My chief hobbies are wrestling, rowing, and gymnastics. I also try a little weight lifting. I can jerk 120 lbs. right hand, 100 lbs. left, and 180 lbs. with both. With a 56 lb. weight in each hand I can press them up alternately forty-two times. I am twenty years of age, weight, 10 st. 4 lb., height, 5 ft. 4 in. My measurements are: bicep, 14¼ in., forearm, 12 in., wrist, 7½ in., chest (contracted), 36 in. (normal), 39 in., expanded, 42 in., waist (contracted), 27 in., normal, 30 in., thigh, 21½ in., knee, 14¼ in., calf, 13 in.

ROBERT AULD.

Muscular Christianity.

Hebden Bridge.

SIR,—About eighten months ago, being thin in body, and not very strong, I commenced taking your magazine, and as my brother happened to possess one of your developers, I began to exercise as advised on your charts. After six months had gone by I felt very much benefited, and bought a developer of my own and a punch ball, and have used these fairly regularly the past year, and I am very well pleased with the gradual improvement in my health and physical condition. I have now invested in a pair of your grip dumb-bells, and was surprised at the manner in which one is compelled to concentrate his mind on the exercises. Our minister and his wife are interested in physical culture, and we are starting a class at our Sunday School this winter, and there will be forty or fifty male members alone. The minister is going to train the lads, and his wife the girls.

M. THOMAS.

Cricketing Enthusiasts.

Sunderland.

SIR,—I have been a physical culturist and a regular reader of your magazine for the last eighteen months, and the articles I have found therein have been very interesting and helpful to me. After I have read the book I always hand it to one of my numerous friends, and in this way at least half a dozen who at one time used to chaff me about my physical culture have become strong physical culturists and readers of your magazine themselves, and thank me for having persuaded them to give it a trial.

Every evening after having cricket practice we assemble on the sea bank, and have a few bouts of wrestling, while many interested strangers look on and enjoy the fun, and sometimes join in it. In this way our cricket club is being gradually converted into a troupe of wrestlers, some of which are quite experts at the sport. I hope this sort of thing will go on until all the club (which is at present head of the Nonconformist League), are as anxious for their regular exercise and magazine as I am myself, and benefit by it as I have done.

JOHN L. HUNTER.

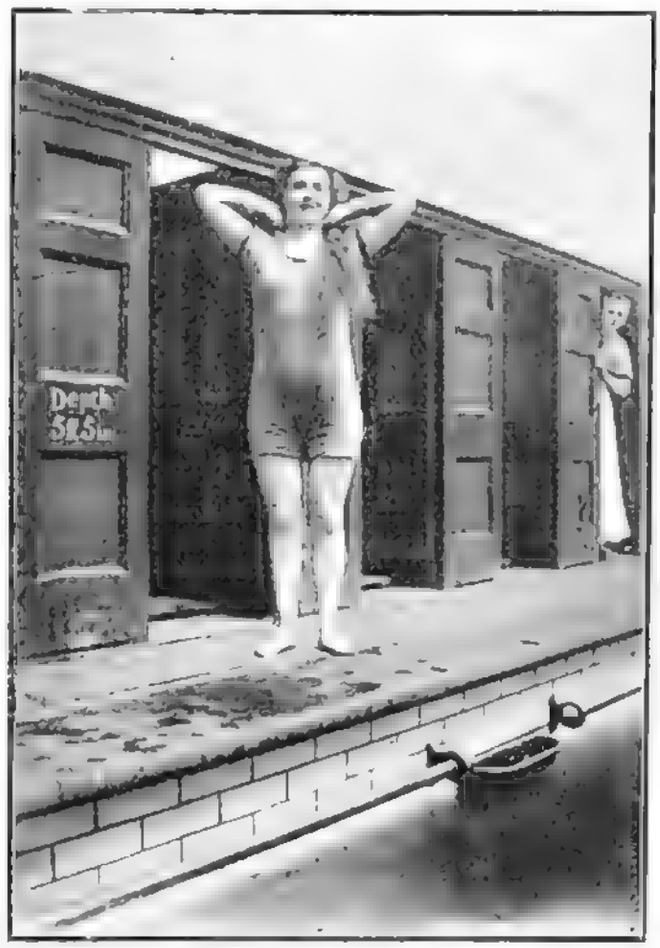
Cured of Asthma.

Lewes.

SIR,—I wish you to know my really interesting experiences, and I am sure they will not fail, also, to interest other readers of your delightful magazine. I have never been strong, for when I was very young I was very ill, and my people practically gave up all hopes. I, however, after a long time recovered, but this illness left me very thin and weak. When I grew older, I read of occasionally, and sometimes saw, strong men with wonderful chest developments and huge biceps and triceps, and I used to cast envious eyes at them.

It was not till 1902 that I had another serious illness, this time a complicated one of asthma, bronchitis, and nasal catarrh. This illness after the first, and having no exercise to speak of, naturally left me extremely weak, and also depressed. When I recovered, I explained my feelings to a friend of mine, and he advised me to get a pair of your spring-grip dumb-bells. It was not until May 1st of this year that I did so. My biceps on that day were 10¼ in., and forearm 10 in., very small, but the illness I had suffered was the cause of this. I have had, therefore, not quite three months' exercise with the dumb-bells; but, my word! I rejoice at change of measurement. The biceps are now 11¾ in., and forearm 11 in. I appeal to all your readers that should they have any friends who are, or have been, stricken with asthma, to give your system a trial, and a fair trial; but they should not go too hard at it at first.

BERNARD V. KEMP.



A PHYSICAL CULTURE GIRL.
Miss Boocock, whose letter appears on this page.

A "Physical Culture Girl."

Laceby, near Grimsby.

SIR,—Being a reader of your excellent magazine I wish to say I think it very unfair that most of the letters which appear in the columns of your Readers' Club are from gentlemen. I have been a physical culture girl now for the last five years, and almost live on fresh air and exercise, obtained from your valuable developer, clubs, swimming, cycling, etc. I do hope if you think my case worth publishing it will be the means of other ladies becoming members of your club and doing their best, as I do, to act up to the motto, "One may help many." I enclose photo, which has been taken by an amateur. Wishing you every success in all your work.

A. G. BOOCOCK.

A Mother's Views.

Sheffield.

SIR,—Reading from week to week past experiences of your readers, and being a great believer in your system, I should just like to tell you what benefits myself and family have received from your magazine. I must say I am a married woman, and the possessor of two fine boys, one aged 2 years 10 months, and the younger 1 year and 10 months. Now, before taking your magazine, my youngest boy was a frail thin white faced little mite, and had given us many days and nights of worry and trouble, and caused much expense in buying several different patent medicines for children's ailments. One day my husband brought your magazine home. I glanced through your pages, and thought there sounded common sense in your advice. I took notice of your Notes, put them into practice, discarded all medicines, gave my boys plenty of sunshine, took several of your hints of how to live and what to live on, and to-day there are no two finer and healthier children living. Instead of the white, frail, pale-faced mite, there is a fine, brown, chubby little chap, the picture of health itself. Wherever I go my youngsters are admired, and needless to say, envied. They ask me what I do to them, and what I feed them on. 'Tis then I bring your magazine into favour, and give a word of praise to its Editor. They see the benefits I have derived from your advice; they get your books; they try your notes with the same results. I never buy any medicine now—have not done since I began reading your book—and they never require it, they are in the best of health without it. The

children rise with me at 5 a.m. I give them both a good bath; they then have a basin of Plasmon oats. I have them out for a walk for about two hours from about seven till nine; they then come home again, have some brown bread and butter, and a cupful of warm milk. For dinner they have fish and milk pudding; for tea, brown bread and butter and milk again; have no supper like the majority of children, but go out as much as possible, and both go to bed at seven each night. They are always ready for sleep, and I do not know what it is to have them wake up before morning, so you see after seven each evening the night is all my own, and I am well repaid for the trouble I go to in the day with them. If any of the lady readers with families carry out the rules above I can safely say they will never require a doctor nor medicine either, and instead of life being a burden it will be a pleasure to live. My husband and myself are firm believers in your system, possessing a pair of grip dumb-bells, Sandow developers, and punch ball. We are bringing the youngsters up to take a strong interest in it. My eldest boy is a perfect ittle Sandowite, and nothing pleases him more than when he can go to "daddie's den," as we call it, and have a slight exercise, and a punch at the ball.

PROUD MOTHER.

Dumb-bells of Mud.

Hyderabad (Deccon), India.

SIR,—As I am a reader of your magazine from three or four years, and an instructor to your system class, and also a secretary to Deccon S.M.R.C., I feel it is my duty to help you in your work as far as I possibly can. This week I send you a letter describing the few steps I have taken according to our Club's motto, and hope that you will kindly find a space for it in your instructive magazine, as you have so kindly found for my first letter. In order to turn the public attention to your magazine and system, I always (*i.e.*, whenever I am out either in the day or night time) carry your paper with me, and I am glad to state that in this way I am always succeeding in getting new recruits, and turning the attention of the public to your system.

One day, while I was teaching gymnastics to the D. Police, two prisoners of thirty and thirty-five years of age respectively, who has often seen your paper, with me, came and seeing again a new paper, asked me "What is this paper, and why are you always carrying it with you?" In answer to this question I explained to them all about your system. Next day they came again and told, "Please tell something more about that strongest man," and after knowing everything about your strength, feats, beauty, and other details, their last words were, "We will be very grateful to you if you will kindly let us know the different exercises with dumb-bells. But," they added, "as we are prisoners, we are unable to purchase any kind of bells." I thought that it would be something wrong, if, without a permission of our officers, I will supply them with a pair, and if I will go to ask for a permission, the officers, who thought that exercise is not necessary for every man, will only laugh at me. So I told them to bring some good mud from any earthen pot maker's house. Taking that mud from them I turned it into a mud dumb-bells shape, putting a round stick between the two mud balls. After they were dry, I weighted them, and made each of them equal to 4 lb., and covering them with a black paper, gave to them. Now those poor prisoners are exercising with the mud dumb-bells; and every day they tell me to thank you very much for your system. So in the conclusion of their state I hope you will be kind enough to accept their thanks. The next two steps I have taken in July, 1906, are, that every week I send an article in Urdu for children's paper (this is a monthly paper in Urdu), as the editor has given me a permission to do so, and in this way I am trying to turn the attention of the children about your system.

NOOR SHAH KHAN.

[Notwithstanding the faulty English of this letter it will be intelligible and interesting to my readers.—THE PRESIDENT.]

Doing Practical Service.

Newport.

SIR,—About four months ago a friend of mine asked me if I went in for physical culture, and I told him I did not. He told me to go in for it, as it would do me good, and seeing that I don't get much exercise, working in a hairdressing saloon, I took his advice, and am glad I did so. Before taking up physical culture I always used to get headaches and giddy feelings nearly every day, but I am glad to say, since doing the exercises I have not had any of my old complaints, and am in excellent health and strength. I bought a pair of your spring grip dumb-bells, and also your books called "Strength," and "Body Building." I do not keep on with the same exercises every day; I do the chart of exercises given with the dumb-bells one day, and the next day I do the chart of exercises in your book "Strength." By so doing I find it a lot better. If any of my fellow readers should try this I think they will find it quite a change, and better than keeping on with the same chart every day. I have been taking in SANDOW'S MAGAZINE for the last sixteen weeks, and find it very interesting. After I have finished reading it I take it to the saloon, and I daresay 200 customers look through it weekly. I also know that it has been the cause of five of the customers going in for physical culture. Very often young chaps ask me to lend them my dumb-bells to practice with, which I always do when I finish my own exercising. I also lend them the magazines and books as well. I hope this is acting up to your motto, "One may help many."

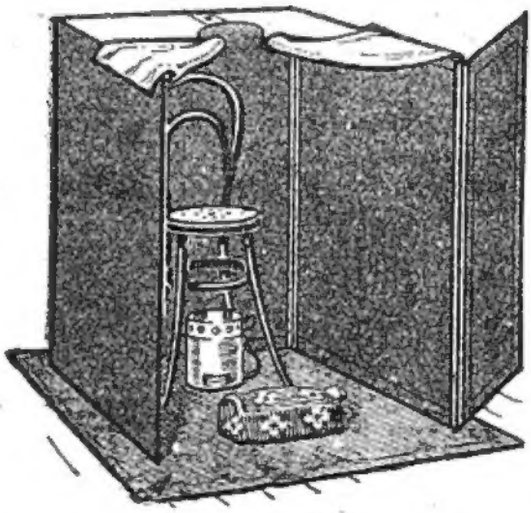
RICHARD WRIGHT.

East Ham.

SIR,—I received my "Fellowship Medal" quite safe, and am very pleased with it. I have shown it to my friends, and they greatly admire it. Wishing your magazine every success.

A. TURNER.

Delighted Users tell the Story.



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